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A
T R E A T I S E
O N T H E
S T U D Y O F A N T I Q U I T I E S
A S T H E C O M M E N T A R Y
T O H I S T O R I C A L L E A R N I N G,

Sketching out

A GENERAL LINE OF RESEARCH:

Also Marking and Explaining

S O M E O F T H E D E S I D E R A T A.

With an A P P E N D I X.

N^o I. On the Elements of Speech.

N^o II. On the Origin of Written Language,
Picture, Hieroglyphic, and Elementary-writing.

N^o III. On the Ships of the Ancients.

N^o IV. On the Chariots of the Ancients.

By T. P O W N A L L.

Ὅστις, ὡν ἀναλῦσαι οἶός τε ἐστὶ πάντα τὰ γένηα ὑπὸ μίαν τε καὶ τὰν αὐτὰν ὀρχάν, καὶ πάλιν συνθεῖναι τε, καὶ συναριθμηθῆσθαι ἔτος δοκεῖ μοι σοφώτατος ἤμεν καὶ παναληθέστατος; ἔτι δὲ καλὰν σκοπιὰν εὐρηκέναι.

Archytas de Sapientia, Lib. I. quoted by Jamblicus.

L O N D O N,

Printed for J. DODSLEY, in Pall-Mall.

M.DCC.LXXXII.

THE
HISTORICAL





TO
PRESIDENT, COVNCIL, AND FELLOWS
OF
THE SOCIETY OF ANTIQVARIES,
THE FOLLOWING TREATISE
IS,
AS A TESTIMONY OF RESPECT
TO THAT LEARNED BODY,
ADDRESSED AND DEDICATED
BY
T. POWNALL.

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- 1 That the Society of Antiquaries is peculiarly, by the nature of it's establishment and institutions, adapted for the investigation of ancient learning; and for that knowledge of antiquities which may become the ground of the *Historia propria et justa.*
- 2 Is one of the most useful *Literary Establishments* which have been made in this country; is not only a repertory of the collections of Antiquarian Information, but actuates a principle which hath a tendency to restore and re-edify history from the ruins amidst which it lies.
- 3 The two errors of the false antiquary marked; 1st, That of forming too hastily visionary systems; and 2dly, That of making endless and useless collections of relics and fragments, without scope or view to any one point.

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4 To explain the *Principle* of this branch of learning; the *Principle* on which the society is supposed to act; and the *End* towards which the inquiries and labours of the Society ought to be directed; is *the scope of this treatise*; it marks in its course some of the *De-fiderata* in this branch of learning.

5 Two concurrent lines of study, that of history, properly so called, both of nature and man; and that experimental history of the extending and advancing powers of man, as they are elicited by the varying and encreasing wants of his being.

6 That there is, as it were, a *golden chain* descending from heaven, by which all things are linked together in a general system; and that man hath powers to trace back the *links of this chain* up to the primary principles of this system; and that the study of antiquities should be pursued in this spirit of philosophy; and the knowledge acquired thereby applied *as the commentary of history*.

7—43. The work then commences, in the spirit of this philosophy, and in the line of the rule here layed down, with

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with an *Analysis of the powers of Enunciation* and the *Elements of Speech*, and endeavours to mark, both in reasoning and by example, the use which the truly philosophic Antiquary may make in the resolution and composition of these powers and elements, to the investigation of ancient history. This part refers to N^o I. of the Appendix, which is a treatise written expressly on this subject; it goes to an inquiry into the powers and acts of vocal and articulated enunciation as they exist in the nature of man, and as the principles thereof are to be found in all languages: this the true ground of *Antiquarian Etymology*, which, without it, will ever be the mere ringing changes on one's own ideas, and a wretched punning. Under this head the *language of men* as spoken in the times of the kingdom of Troy, the language of ancient Greece before the arrival of the Hellenists, and the language of ancient Europe in general, are considered and compared.

43—51. The Treatise then proceeds, by the same principles, and in the same line, to inquire into and explain the

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various efforts and inventions which men in all ages and countries have made to mark for distant places and times, the invisible transient expression of ideas, which speech can only give at the present time and place. This part goes in general to an inquiry into the origin of *Picture-writing*, into that which is commonly called *Hieroglyphics*, and into the nature of the *Elementary*, or what is vulgarly called *Alphabetical writing*; shows how these in their reciprocal use and interpretation have given occasion to the deforming the true and direct representation of the human Being and Life; and how by a philosophic resolution of the modes of the deformation, joined to combination of such fragments of facts as remain amidst the ruins of history, the Antiquary may elicit truth out of fable, and reform and re-edify ancient history to some semblance at least of the state of things in fact, which it represents. This part refers for a more particular account of these points of antiquity to N^o II. of the Appendix, which is a Treatise on this subject in detail.

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52—53. History compared to a ship sailing down the tide of Time, fraught with every thing useful to be known, but which hath suffered ship-wreck; the method of the study of Antiquities explained by allusions to this simile.

54—55. The folly of merely making collections of Antiquities, compared with the right way of collecting and assorting the discoveries of particulars which the Antiquary may make, so as by an induction of these particulars to lead to some combination of the general system of fact.

56—57. Man is a finite Being circumscribed in his *natural* wants; although not easily defined and circumscribed in his *artificial* wants; yet his improved resources being proportioned and adequate to these, in the various progressions and revolutions of his existence, the line of investigation into the one is marked by the knowledge of the other, so that the study of antiquities, here in this branch, is not a boundless pursuit but is defined both in mode and extent. This explained by a reference to the cloathing suited to the same kind of limbs in the same animals in all ages, and

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- to the instruments used by all people, being similar as suited to like hands and like actions, let imagination or caprice try never so much to vary them.
- 58 This Theorem applied to show that there may be an ascertained line of developing the fabulous, and resolving the mythic parts of History, so far as they respect the accounts of the first advancing stages of human civilization.
- 59 By a careful analysis of human nature, and by a combination from analogy of such broken accounts as the ship-wreck of History affords, a description, almost historic, of the progress and first stages of human life may be composed; such as shall give a just representation of the general course of events.
- 62 This exemplified in the fabulous accounts given of the settlements made in the Ægean and Euxine Seas, and coasts thereof by the Phœnicians, Ægyptians, and Hellenists.
- 66 An idea, professedly an imperfect one, thrown out of the commerce of the Euxine and Western parts of the Mediterranean Seas; the Chittim and
- Tar-

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- Tarshish of the ancients; and a wish expressed, that Mr. Clarke, author of the Treatise on Roman, Saxon, and English Coins, would supply the *Desideratum* in this branch of historic learning as to the one; and that Mr. Bryant would turn his thoughts to the other.
- 69 When the history of those parts and periods are once developed of their mysterious garb, we shall receive very different accounts from what the deformed and abused fables now hold forth; this exemplified by an unravelled account of the settlements and exclusive commerce of the Cyclops and their courts of admiralty.
- 73 Ancient History compared to a *deformed picture*, and the philosophic restoration of it, to the mathematic mirror, which will reflect such deformed picture in its true proportions and contours, *tanquam in speculo*.
- The treatise next proceeds to consider the mode in which the philosophic antiquary may conduct his commentary on the *Historia propria et justa*.
- 74 A knowledge of the component parts and living system of the human community,

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munity, 1st in Society, and 2dly under Government, without which, History will be but a story of a creature little known to us, stated as a *Defideratum*. Here the Antiquary, whose commentary gives the knowledge of this process of the human Being, becomes the interpreter, who renders *history intelligible*, and makes it become *experimental knowledge*. This knowledge alone can explain those *vicissitudines rerum et fundamenta Prudentiæ*, which Lord Verulam states as the proper fruit of historic learning. This exemplified by different instances in history; in the case of the Roman subject, as taken from his civil rights, and subjected to military *imperium*: in the case of the state and progress of the Grecian community in the time of the Trojan war, as explained by Thucydides; the state of the Ægyptian community; that of the Jews, and that of the Phœnicians.

89 These preparatory and explanatory instances lead to the application of this Theorem, to the stating of the system of measures planned by Alexander, who was the first prince-statesman

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- man who combined upon system the interest and powers of commerce, with the operations of polity.
- 96 An actual knowledge (such on which experience may be founded) of the ancient commerce of the East, of Persia, and of India, wanted. It is from the local knowledge of scientific mercantile men alone, who have lived in and had experience of those regions, that the world can expect practical information on this subject.
- 97 The Treatise here closes its observations on the nature of the community, and of commerce, as the source of wealth and power to it; and proceeds to the consideration of the necessity of understanding the channels in which certain portions of this wealth, as the revenues of the
- 101 state, ran. This line of research, illustrated by a summary description of *the Roman Revenues and measures of finance*.
- 116 The Treatise next proceeds to consider the actual mechanical force of the community of the ancients in some instances not hitherto adequately explained, nor precisely understood. The first instance is, that of our want
of

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- of information as to the *ships of war of the ancients*, their *Triremes*, *Quadrirèmes*, and *Quinquerèmes*. The discovery and learned description of these matters made and given by General Melville, here first published, whose Memoire on the subject in N° III. of the Appendix is referred to. The second instance is that of the *military Chariot* of the ancients; a particular Treatise on this subject is given and referred to in N° IV. of the Appendix.
- 120
- 122 Of the chronology of the Ancients and its defects, on which a comparison of the Mythick or Fabulous, and of the Historic Narratives of the Ancients, is offered to observation. While
- 124 on one hand the defects of history, which pretends to give the actual state of fact and deed, in the true order of time, arranged, fixed, and ascertained by epochs, which it neither does nor can so give for certain, are considered; the *Mythic or Fabulous History* is stated on the other as *giving a general representation of the general course of events*, and not a particular narrative of a particular train of facts. In that view, the latter is stated as giving sufficient knowledge to all the purposes of experience and use,

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use, equally as well as that which assumes and pretends to give an actual state of fact and deed. From this opinion a rule is laid down, that *while on one hand we should not refuse all historic faith to what is represented only in fable; so on the other extrem we must not receive that as historic narrative of actual facts and events, which is only representation in apologue and muthos of the general state and course of events in the history of man and nature.*

124 This doctrine exemplified first; by an explanation of the fabulous history of the Argonautic expedition.

128—144. And secondly, by a philosophic commentary on the Antidiluvian history, which the books of Moses give, considered as an apologue.

145 This rule further applied to those Fables which seem to veil the knowledge of the use of the polarity of the magnetic arrow, as known to and used by the ancients in their navigation.

END OF THE FIRST PART.

A P P E N -

A P P E N D I X.

N^o I.

Analysis of the elements of speech, as applicable to Etymology in the study of Antiquities.

N^o II.

A Treatise on picture-writing, hieroglyphick and elementary writing, shewing how the first arose from nature, the second from art; with an illustration of the effects which these have had on the deviations and mutations of language; in a letter to Tho. Astle, Esq. Oct. 25, 1778.

Read at the Society of Antiquaries, London, Jan. 18, 1781.

N^o III.

Memoire.—Being a narrative of the investigations and discoveries made on the subject of the *Triremes*, *Quadrirèmes*, and *Quinquerèmes*, of the Antients, of the nature of Row-gallery, of the posting the rowers, and of the mode by which these vessels were rowed, by Lieutenant

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tenant General MELVILL. Communicated to Governor POWNALL, May 15, 1781.

N^o IV.

Dissertation on the antient Chariot, the exercise of it in the race; and the application of it to real service in war.

PART SECOND.

The observations on the study of Antiquities, *as the commentary of history* now passes from that period which is called *Ancient History*, to a succeeding period, wherein *a new race of men* invaded the cultured world, and overwhelmed, as with a deluge, its civilization.

The spirit and character of these two periods compared.

The facts of this general revolution in the inhabitancy, the occupancy, and government of the world, are indeed generally and incidentally told by the Greek and Roman writers of history; but as the sources and first courses of these people lay beyond the *historic horizon*; as the events were prior to the chronologic canon of history; and the crisis of these events not within the scope of the philosophy of these

these writers, this revolution hath been rather looked up to with astonishment and wonder, than investigated and explained.

The Philosophic Antiquary will, as the commentator on history, examine and thence explain this, in a more detailed and circumstantial manner, than the historian may perhaps think necessary. He will, from the fragments of facts, as they lye scattered amidst the mass of historic ruins, or buried and overgrown by the weeds of fable, so combine the accounts of this great event as to recompose them into some semblance of the original fact.

The Treatise, after given the rule, proceeds to the application of it, by an attempt to describe the circumstances and preparatory events, which led to this revolution of the world.

The *Historic Horizon* defined in its northern limits, with reference to the Cimri, Cimbri, Cimmerians, or Hyperboreans, who are fabulously described in ancient history to have had their dwelling *beyond the bounds of the earth*, beyond chaos, in Tartaros; as also to the Teyts or Titans, the Teuts or Dteutsch, whose habitancy and the procession of whose generations were bounded by this horizon not beyond but *on the extream borders of the earth*. The accounts given by Hesiod of this first inhabitancy

habitaney are explained, and shewn to coincide with those given by our HS. History.

The Cymri traced in the processions of their generations and habitaney (beyond the boundary of the historic horizon) from the Mœotic Lake, to the Cimbric Isles of the Baltic, and to the Western Isles and coasts of Europe.

The Teuts in like manner traced along the extremities of this horizon to the coasts of the Baltic, the Saxon shores, and into the British isles.

The terminations *Ingi*; *Ait*, *Aitæ* or *Ættæ*; *Ones* or *Vones*; explained, as they enter into the composition of most of the names of both these people.

The Treatise then proceeds to sketch and draw out the lines in which the history of the first inhabitants, the procession of their generations, and the final settlement of them as nations should be investigated.

The nature of their situation, and of the circumstance, of the regions in which they dwelt, and which they occupied, described. The forming cause of these people becoming finally a great naval power, hence derived and explained in its principles.

The Cimbric Chersonesus, shewn to have been an island, and the Low Countries,

tries, now called Flanders, to have been Sea, with some exceptions of flooded marshes and islands.

That the inhabitants of these regions were fishermen, marine navigators, rovers, and pirates.

The nature of this ancient mode of life described as to its spirit, character, and naval operations.

These Vics, Wiggs, Wiggans, and Vicanders (afterwards called Picts), described in their roving excursions, in their colonial settlements, and in their conquests.

Concurrent with this, an account is given of the supposed first original, and next of the earliest adventitious inhabitants of Britain; of the Cymri, the Cotti, Attacotti, and Escotti, as found therein; also of the Celtæ and Belgæ.

Hence a more particular account of the actions, operations, and settlements, of the Vics, Vickanders, or Picts, in Scotland, in the eastern and southern isles and coasts of Britain; and on the coasts of Normandy and Aquitaine, where they were in the earliest times under the name Cyn-haid, Cyn-aît, or as Herodotus writes it *Kunaitæ*.

The manner and line marked out in which the origin, progression, amplification, and establishment, of the GREAT NORTHERN NAVAL POWER, may be investigated;

tigated; according to which rule, an Essay towards its history, from the earliest times to the period when it was advanced, so as to come forward and dispute the empire of the world with Rome, is inserted.

The terrestrial lines in which the processions in generation and habitancy of the Teuts or Teyts, of the Celts or Gauls, may be investigated, are marked. In the course of drawing which, an account is given of those two fraternal branches of the sons of Cottus, Gott-Teus, or Teubaal, the son of Japetus or Japhet, as they became in process of time the settled inhabitants of Gaul and Germany, as nations.

The first inhabitants of Europe and of the Western part of Asia, as deriving from Gomer and Magog, the two sons of Japetus, and their sons Madai, Tubal, and Javan, particularly described: herein of the Tr'oim, the Ach-aians, the Tr'achs or Thraces, D'achs or Daci and Davi. The Getæ, Teuts or Dteutsch, the Celtæ and their processions, as Galli and Gallaitæ; Æoalians, or Gæol. This account closes with an etymology, different from what hath been hitherto given, of the appellatives German and Celt, as becoming national names.

From the research *who* these people were, the treatise proceeds to mark the

line in which the investigation into *what* they were should train; that this ought to be pursued by a line wherein principles and facts combine. The exemplification and application of this mode of studying this part of ancient history: and first of the Sylvan Life inhabiting and occupying the earth in its natural and original state—of the Forest-hunter, the nature of his occupancy and population—of the Marine-hunter, or Fisherman and Navigator, of his occupancy and population—of the scites, circumstances and principles which give source to population—of the *advancing, stationary, and declining state* of population in the different nations at different periods, as these circumstances and these principles operate: Herein of the *temporary plethorism of populousness* in certain periods of the progression of civilization; as also of the fluctuation of inhabitancy and dominion in the early ages of the world in consequence thereof.

The *temporary Plethorism* of the northern people who invaded and over-ran the Roman empire, explained from these principles by facts. The state of their community explained, from whence is derived the reason why they were enabled to bring into the field such multitudes beyond any proportion of numbers which settled

settled and compleatly civilized nations could bring there.

The ease with which they could migrate in a body, as a whole nation, explained from the principle, which they invariably and unalterably adhered to, *that of not becoming settled landworkers*; the operation and effect of this principle in the nature of their inhabitancy, and in the forms of their landed occupancy; their mode of life and character, their community an army, their inhabitancy a campaign; and their movements made by a system of camps.— Their habitual experimental knowledge in the supply of a moving body, their knowledge and practice in the *Res Frumentaria*, and *Res Portoria*.

This again more particularly exemplified by the routs they took by sea and up the great navigable rivers; the use they made of the naval power established in the parts they came from or passed through.

As this treatise hath above explained and described the naval ascendant power which existed in the Baltic, on the Saxon shores, and in the western ocean; it now proceeds to describe that which existed in the Euxine Sea, and on the rivers which run into it; as also that on the Ister or Danube. The nature of the avenues and water-carriage of the Rhine and Danube

as leading to the very gates of Italy explained.

The relative numbers and force of the invading nations, and that of the empire of Rome, as they met on the frontiers, put in apposition, by a comparison of the nature of a loco-motive community, not yet divided into all those branches of labour, employ, and service, which form the members of a perfectly civilized community of settled inhabitants.

Of the nature of the line of the Roman frontiers and its defence; compared with the nature of the attacks which it had to resist.

The effect of dividing the services and commands: The effect of removing the seat of empire from Rome to Byzantium, called Constantinople.

This subject explained by an examination of the system of dominions and frontiers, adopted and formed by the experience and prudence of Augustus. The effect which the empire experienced when the emperors quitted this system; this exemplified by an explanation of, and a criticism upon the third ode of the third book of Horace.

The conclusion of this Antiquarian Commentary on this great Revolution, *so far as respects the causes of it.*

The

The same *considered in its effects* as it operated in the succeeding period of the world, to the establishment of a new system of occupancy, polity, and government. Herein of the *feudal state* of property in land, and of the *military state* of service in the person; as a fundamental establishment of the new Imperium.

That the spirit of the government, thus wholly military, considered the political constitution of the state, and the administration thereof merely as *œconomical*; and had therefore no conception that it was of any import, or any ways necessary, that the political state should be co-extensive or co-existent with the *supream imperial* command of the *sovereign*.

This principle explained as the source of the various *Curiaë*, Jurisdictions, Laws, Customs, and even Governments, which existed *in eodem Imperio* at the same time, independent of each other, and *paramont* within their respective jurisdictions, as political states in their political *œconomy*.

After having thus sketched out the line of revision by which the great revolution of the inhabitancy and state of Europe may be investigated, as to the establishment of the new system which hath from that period actuated it, the treatise proceeds to shew how the Antiquary of each country

country may take his own peculiar course of inquiry into the ancient state of his own nation and community, by what means and by what modes of inhabitancy, cultivation, and property, it was possessed, by the several successive people who dwelt in it; as also what form the community and government took under each; in what state those inhabitants, who are commonly and vulgarly called the original inhabitants, possessed and cultivated it; how they lived, and under what forms, and by what means, under the Romans, the Danes, Saxons, Normans; how and by what ways and means their constitutions of government took each in their respective form these successions of revolutions; how their manners and customs.

All this applied to the Antiquities of Britain and England especially.

PART THE THIRD.

Inventarium opum humanarum quo excipiantur et breviter enumerentur omnia hominum bona et fortunæ (five sint ex fructibus et proventibus naturæ, five artis) quæ jam habentur et quibus homines fruuntur, adjectis iis, quæ olim innotuisse constat, nunc autem perierunt, &c. Bacon de Augment. Scient. Lib. III. c. 5.

Herein of the Antiquities of Abstract Science; of Arts, necessary or ornamental in those articles by which Man is lodged, cloathed, or fed. The commercial, mechanical, and agricultural Antiquary.

N. B. I give here the contents of the whole work as finished; although the publication of the second and third parts is deferred. It is deferred, as my Bookseller doubts whether a work written on subjects of this nature, by a person of no literary character, will become an article of sale sufficient to pay the cost of publishing, although, as I never take any money from a Bookseller, the copy costs him nothing.

The Reader is desired to correct, previous to reading the work, the following *Errata*, which escaped the Author's notice in the course of correcting the press, a task he is not much used to.

page	line	
7	24	lege <i>reprehensione</i>
8	13	dele <i>not</i>
15	22	after the word <i>it</i> , a full stop
26	26	after the word <i>used</i> , put a full stop.
29	18	after the word <i>of</i> insert <i>the</i>
31	4	after the word <i>of</i> insert <i>the</i>
33	23	read <i>Neptunia</i>
54	11	for <i>evacuation</i> lege <i>excavation</i>
55	9	from the word <i>voire</i> dele <i>e</i>
60	28	dele <i>of</i>
79	11	lege <i>complaints</i>
88	15	after the word <i>of</i> insert <i>the</i>
	20	dele <i>again</i>
94	ult	for <i>almost</i> lege <i>utmost</i>
95	1	for <i>Paulus</i> lege <i>Palus</i>
111	9	for <i>Quod te Fabricus</i> lege <i>Quo te Fabricius</i>
	14	for <i>ultiæa</i> lege <i>ultima</i>
120	10	for <i>seven</i> lege <i>nine</i>
135	19	after the word <i>seas</i> put a ;

T R E A T I S E

O N T H E

S T U D Y O F A N T I Q U I T I E S , & c .

THE Society of Antiquaries, a body of men knowing, some from learning, others from experience, in all the several branches of the history of man, and of the world his habitation, is, by the conspiring information, and mutual communications of its members, as also by its being a Repertory of their collective learning and discoveries, peculiarly adapted to institute and build up that *Historia propria et justa*, which the Lord Verulam does hold to be alone actual and practick knowledge.

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I have

I have always considered this Society in its institution as one of the most useful literary Establishments which have been made in this country; as promoting and encouraging true and useful learning; as aiding and conducting the researches thereof to real and practical knowledge; the knowledge of our country; of our nation; of its actual history; of its laws and rights; of its civil constitution: As also by a history of the proceſſion of the encreasing wants, and elicited resources of man, leading to an Experience, applicable in practice to the state of the system in which he is plac'd; leading by experience of what has been under various circumstances attempted, of what under various circumstances hath been the effect of such attempts, to information of what may and can, or what cannot, be done with his varied and encreased powers in the varied and extended circumstances of his being.

When I consider this Society as a Corporation, I suppose it to have been in its institution something beyond that of a mere Repertory. I look to some plastick principle, some tendency to assort as well as to collect; some recognizing principle which may reform as well as revive some of the multitude of materials which are
every

every day brought to the mass of our discoveries, with a view to the restoring from its ruins, and re-edifying, that ancient Structure of which our numberless collections are but the reliques and dispersed fragments:

Did we follow the seductions of fancy, and quitting the sober steps of experience, hastily adopt system; and then from a dotage on our own phantoms, dress such system out in the rags and remnants of antiquity, we should only make work to mock ourselves: or were we on the other hand to persevere in making unmeaning endless collections without scope or view, we should be the dupes of our own futility, and become in either case ridiculous. The upstart fungus of system is poison to the mind; and an unnutritive mass of learning may create and indulge a false appetite, but never can feed the mind. Πολυμάθεια νοὸν ἐκ διδάσκει *. All the learning in the world, if it stops short and rests on particulars, never will become knowledge. To avoid then these extremes of self-delusion on one hand, or of the false conceptions of barren folly on the other, we should keep our minds

* Heraclitus.

constantly fixed on the PRINCIPLE and END of our institution.

To analyse and explain this *principle*, to describe that line of research which leads to this *end*, and, in the way, to point out some of the *Desiderata* of this branch of learning, is the purport of this Treatise.

The study of the system of the human being; and of the state of nature, of which that being is a part; is the business and duty of him who is to move and act in it. If he would have a real and practical knowledge of it, he must search and examine, not only the present state of nature, the actual and immediate state of his local or temporary situation; but penetrate with philosophic patience and inquisition into ancient history, *ubi et Hominum et Naturæ res gestæ et facinora memorantur*.

He should examine and analyse this system, like a great machine in all its parts, powers, operations, and relations: he must endeavour to trace its nature in every period of its progressive existence, and compare all with the present state of it. “ *Difficile enim est in Philosophia*
 “ *pauca*

“ *pauca esse ei nota, cui non sunt aut
 “ plura aut omnia **.” Nor must this
 analysis be made from any theoretick ab-
 stract view of things in general; but by
 closely following step by step the path in
 which nature *acting* leads; and by a strict
 induction of her laws as found in her ac-
 tions. “ *Omnes enim artes aliter ab iis
 “ tractuntur qui eas ad usum transferunt,
 “ aliter ab iis qui ipsarum artium tracta-
 “ tu delectati nihil in vita sunt aliud
 “ acturi.*” In this line of research conducted
 by this principle, he may hope to arrive
 at *the true end of learning*, THE KNOW-
 LEDGE OF THE SYSTEM OF HIS EXIST-
 ENCE; AND AT EXPERIENCE IN THE USE
 AND APPLICATION OF HIS POWERS TO THE
 RIGHT POSSESSION AND ENJOYMENT OF
 IT.

There are two concurrent lines, in
 which this knowledge may be traced.
 The first is that of history properly so
 called, the other an experimental history
 of the varying and encreasing wants, and
 of the resources and various contrivances
 and inventions of man; as these have from
 time to time been called forth by the dif-
 ferent wants of the varying situations of
 his being. This second line of research

* Cic. Tusc. Quæst. l. ii. § 1.

is to be pursued by forming what the lord Verulam calls “*Inventarium opum humanarum.*”

If there was no ground as a basis for these experiments in assorting the scattered fragments and reliques of antiquity to a Reinstauration of (at least) the knowledge of the system to which they belonged; the labours of learning would be but the building (as our proverb expresses it) castles in the air: if there was no certain decided and defined course in the movements and operations of nature, all theory on which these experiments could be instituted, would originate in caprice, and must end in empiricism; but there is in nature, a system by which every being is defined in its own essence, and in its relative existence; by which that being hath a certain energy and defined extent of power, by which the direction, which those powers in motion take, is determined. This system consists of a series of causes and effects, linked together by that *golden chain* which descends from heaven. If then this system exists by such a series in nature, there must be in the power of man a clue, by which reason in the patient spirit of investigation may retrace back the links of this chain

to the primary, if not the very first principles on which the whole depends.

I will commence my application of this theorem with the first object of investigation that must occur to the Antiquary in his researches into the historic traces of the human being. I shall apply it to that species of history which may be elicited by a truly philosophic etymology, and a scientific examination of the various modes of enunciation, by which the primary elements of speech became so inflected as to form various dialects of the same language, and so devicous as to create various derivative languages.

“ Humanâ voce nihil majus varium,
 “ hujus tamen discrimina in singulis per-
 “ sonis facile internoscimus. Nihil majus
 “ varium quàm soni articulati, verba
 “ scilicet, Via tamen inita est eam re-
 “ ducendi ad paucas litteras alphabeti *.
 “ In sonis quædam est antiquitatis veritas
 “ quam neque consuetudine diversam, ne-
 “ que rerephensione nullam, neque vo-
 “ luntate nostrâ translaticiam efficere pos-
 “ sumus †.”

* Bacon de Augm. Scient.

† Sir T. Smith de vera pronunciatione Lingvæ Græcæ. 1542.

The line of this research may be conducted by an analysis of the powers of articulation in man, deriving from the varying form and texture of the organs of speech. The peculiar jointing and moving muscles of the human limbs decisively determine the specific inflection of those limbs; all the movements and attitudes therefore of all men in the world must be generically the same: Particular modes of exertion, caprices, and fashions, and divers habits and customs, may create some personal, professional, or even national peculiarities; yet all are reducible, by a knowledge of the construction of the machine, to the movements and attitudes of the one defined animal man. The variant enunciation of the elementary sounds of speech may seem almost infinite and inscrutable, not only as it arises amongst various races of men; but also in the same race of men at different periods of time, and even in the same individual, but they are not so, nor will be found to be so when examined, either by the nature or the exercise of the organs which sound them: various and almost discrepant as the pronunciation of the same language may sound, spoken in different periods of time, in various climates, and under divers habits; different as the different sounds used
by

by the various inhabitants of this earth, may seem: yet when the powers of enunciation, as they exist and are capable of being exerted, are analysed, they will be found all to be confined to, and circumscribed within, the same elements of speech; and these elements also, however infinite the words of speech may seem, when resolved into their primary and indivisible sounds of voice, will be found not to exceed sixteen. I shall not here enter further into the actual analysis of this subject; as No. I. of the appendix is an express treatise of this subject, considered as one of the *desiderata* in the study of antiquities. I shall only observe that this method of resolution and composition of the elements of speech did actually lead in the sixteenth century to many discoveries in the etymon and orthography of the dead languages. The truly philosophic etymologists have, in many instances, traced back the deviations in different dialects of the same language, and the variations of different languages, through sources which lay almost buried under the ruins of time, so as to discover the original root whence all derived. The discoveries made by these meritorious labours in this line of research have led to the elucidation of the history of
man

man in many points essential to that history; to the ascertaining and identifying the people, the persons, the country, which were the objects of the narrative. This philosophic etymology may tend to explain many circumstances of the customs, policy, and deeds of these people, may in many cases elucidate the geography and even chronology of those countries.

An attentive investigation, by this mode of resolution and composition, of the different manner in which different nations pronounce reciprocally the words of each the other's language; repeated experiments by the ear, made on the peculiarities which each hath in founding the palatin elements of speech, with a varying guttural catch of the voice, and in giving various aspirations, by which they surcharge the dental, lingual, and labial elements; will elicit and elucidate many curious matters which shall continually arise to light by these experiments so conducted.

The Principle, indispensably to be observed, and never to be departed from in this mode of research, is, that the resolution and composition be conducted in a constant reference of the *stock and branches* (if I may so express myself) of the word
under

under examination to *the roots* of the language, to which the word originally belonged. The first step therefore is carefully both by internal and external evidence to enquire, whether the word or name is a native of, or foreign to, the language in which it is found * ; whether technical, and spoken as foreign ; whether adopted, and translatitious ; or whether derived through the ordinary generation of languages peculiar to each race of men, and naturalized ; whether the thing, place, or person, which the word expresses, be foreign or domestic ; if foreign, whether the name be such, as the language, in which the word is found, would invent to describe such thing, place, or person by ; or whether it is the word by which the nation in which the object exists doth in its own proper language express it : if the object is domestick, whether the word be descriptive, or appellative ; if so, whether the word, expressing the description or appellation, be found amongst, or was ever known to, the language of the country

* Plato, in the Dialogue called Cratulus, speaking of the etymology of the word Πυρ, ignis, says, that being, as he apprehends, a barbarous or Phrygian word, he shall not attempt the analysis of it by Grecian elements, and then lays down this rule, which I here mention. Εἴ τις ζητοῖ ταῦτα κατὰ τὴν Ἑλληνικὴν φωνὴν ὡς ἰσοκότως κεῖται, ἀλλὰ μὴ κατ' ἐκείνην ἐξ ἧς τὸ ὄνομα τυγχάνει ὄν, αἴσθησθε ὅτι ἄφοροι ἄν.

or people that is or are named by it ; or whether it be an assumed appellative of the peoples own invention, as a *nomme de guerre*, or a colony name. If it be descriptive, whether the description arises from any real natural inherent Attributes of the person or thing described ; or whether the description is imputed, from circumstances not inherent, but arising from habits of civil and military discipline, or opinions nurtured in religious establishments, or merely from the caprice of fancy. Addressing myself to a learned Society, I need not observe, that all the descriptive appellative words, all commercial foederal terms, in short, all words used by nations in their reciprocal intercourse, expressive of things, places, or persons, and which are therefore capable of being referred to two or more languages, fall under some of these classes. Much less need I load this tract with quotations giving examples of such. These enquiries into the *Étymon*, which proceeds by the internal evidence of the words, should always be attended by the practical comment of the external evidence, which arises from the history of the country or nation, in which the thing, place; or person described exists, or is expressed ; or at least by such comment

as can be formed from concurrent evidences and analogy. Without a constant attention, referring alternately to both these evidences, where they are to be had; and without a more than ordinary attention, watching with a jealous eye over our imagination where we must proceed only by the one line of evidence; the Antiquary will become a mere futile punster, ringing changes with syllables on the tinckling carillon of his own fancy. But as the deviations of language do not, so neither does not the labour of analysing them end here. Knowledge of the ancient state of things comes to us, communicated by language written and not spoken. It is not sufficient that the Antiquary be conversant with the nature of the variations of the elements enounced, but a very attentive observation, how different nations or tribes, or even individuals in different climes, and at different periods of their progress in civilization, apply and use the same system of elementary characters to express that which is meant to be the same sound. No two persons receive exactly the same impression from the same colour, nor will any two (if they are to express that from memory) express with a pencil the same precise *ton* of colour: no two persons hearing the same sound,

found, of a word strange to them, will receive the same impression, or imitate it by the same enunciation ; much less will they, if they are of a different nation, having a different language, write it down in the same manner. When the elements of speech, surcharged with the *guttural catch* of the voice, or with the *aspirates*, as the lingual dental, and labial elements are affected by them, come to be written down, accordingly as the more or less attentive habit of the ear catches the sound, and according to the idea which each nation hath of the powers of the elementary character, by which they mean to express that sound ; the words thus written, and thus composed, undergo such metamorphoses as to retain scarce any of that outward form with which their spirit was originally clothed ; besides, there is in every particular race of people some peculiarities of enunciation, which another people or nation are not capable of expressing precisely, for which peculiar tone they always substitute some other tone, somewhat (according to their own ear and expression) similar : For example, “ the American Indians,” (speaking of my own knowledge, I speak particularly of the five nations, and by way of confirmation, write from the testimony of one who

who perfectly understood their affairs *)
 “ have no labials in their language, nor
 “ can they perfectly pronounce a word
 “ wherein there is a labial, and when one
 “ endeavours to teach them these words,
 “ they say they think it ridiculous to shut
 “ their lips to speak. Their language
 “ abounds with gutturals, and strong as-
 “ pirations.” To the same point, “ The
 “ Chinese,” says Pallas †, in his Journal
 through Siberia, “ are not able to pro-
 “ nounce R, but instead of it, make
 “ use of L; and when two consonants
 “ come together, which frequently occurs
 “ in the Russian language, they divide
 “ them by the interposition of a vowel.”
 On the contrary, the Northern Greeks
 generally inserted between two vowels their
 digamma, in order to aid them in ex-
 pressing those emollient sounds of the
 more southern Hellenists, which their
 grosser rigid organs of speech could not
 well express without it, Mr. Bayer, in
 his *Museum Sinicum* (says Mr. Cox),
 gives several curious instances of the Chi-

* Lieutenant Governor Colden.

† Not having the book by me, I take my account from
 Mr. Cox's account of the Russian Discoveries, in which he
 inserts a History of the Transactions and Commerce be-
 tween the Russians and Chinese, a work containing many
 curious matters collected with great judgment, and ex-
 plained with learning.

nese mode of articulating those sounds which they have not in their own language; for instance, they change B, D, R, X Z, into P, T, L, S S.

For Crux	they say	Culufu.
Baptizo	- - -	Papetifo.
Cardinalis	- -	Kia-ul-fi-na-li-fu.
Spiritus	- - -	Su-pi-li-ti-fu.
Adam	- - -	* Va-tam.
Eve	- - -	† Ngeva.
Christus	- - -	Ki-li-fu-tu-fu.

“ Hoc est corpus meum—Hoke † nge-
futu co-ulpufu mevum.”

From the uncertain and undefined idea which each nation, or each tribe, hath of the powers and combination of the elementary characters; some use one, and some another of the same, or even different classes, in their writing, when all mean to express one and the same sound; some even use particular marks, which are not defined letters, peculiar to themselves, in order to express their peculiar *guttural catch*, or the *aspirations*, with which they

* Here is the initial, and † here the interposed digamma.

† G in the two instances must be only the mark of the digamma, and not a consonant, and must be pronounced as Y. as when the English in Yorkshire say Yate for Gate.

furcharge their enunciation. I have myself been an ear-witness to the matters here stated. When present at the treaties or conferences with the Indians of North America, I have observed that every several interpreter has received a very different impression of the sound uttered by the Indian speaking; and hath also used a different mode of expressing the same name, when endeavouring to enounce the same sound. The sound that struck my ear did also seem, at the same time, very different from the tone seemingly impressed on the ear of the interpreter, or expressed by him; and if I had endeavoured to enounce what the Indian uttered, I should have expressed it very differently from what the said interpreter did: so that the same name or word becomes, when thus transferred from one language to another, quite a different thing. But when these words, thus differently received by different ears, and thus differently expressed, come to be written down, the confusion redoubles in perplexity: when however one is once apprised of the fact, that these Indians use no *labial elements* of speech, and that they express a greater variety in the use of the *digamma*, and in the *aspirats* than the Europeans know; and that the Europeans

do substitute, in order to express these peculiar sounds, each nation very different letters, to express the same word, which yet do not really express them ; one cannot but see how the barbarisms must multiply upon each other. One can however observe that there is generally a kind of uniformity in these deviations, both in the impressions received, and in the peculiar utterance and writing of each nation. To mark this specifically is the indispensable duty of the philosophic Antiquary in his operation of *etymology*. Analysing hence any name or word, according to the peculiar texture of those substituted elements of the language, wherein the word is received; and recomposing it again according to the peculiarities of the language to which it originally belonged ; such words may generally be restored to their original etymon.

May I here be permitted to suggest an idea which in the course of the experience above-mentioned has often struck me ? My idea is, that the diverging of the human speech into various languages hath arisen more often, and gone into greater diversities, since the invention of elementary writing, than from any other cause
whatever.

whatever. I think that the similarity which must, as an actual fact, be supposed to exist in the languages of different people, who understood one another prior to any account which history gives of the *vulgate use of letters*; and the great discrepancy which we know did actually exist in the languages of these same nations after the vulgate use of letters, is a proof of this.

If the various languages of the antient world were in this line of research, by this resolution and composition, reciprocally compared, at or about that period when civilization began to fructuate in an exuberance of population; when the civilized were issuing forth colonies in various emigrations, and forming various settlements, amongst the yet uncivilized natives of the *sylvan* world: If this analysis at every step it took looked to the history of those times, although expressed in *metaphorical pictures*, although cloathed in *fables*, and those fables afterwards deformed by silly devices of *mythology*; many very interesting facts in the History of Man would be brought to light, which have long lyen and must lie buried under the ruins that the devastation of their

wars and plunderings have made over the whole face of the earth.

I may here, referring to an incontrovertible proof in an illustrious example, assert, that such a line of research, conducted by such philosophick etymology, will lead to such discoveries; for in Mr. Bryant's analysis it hath in fact done so. His very superior literature, led by uncommon ingenuity, hath through the sources of ancient learning, opened, as it were, the fountains of antient knowledge; dispelled that more than Egyptian darkness, under which the learned themselves have been so long lost. He hath given such elucidation to the clouded history of the ancient world, that it should seem, that truth, like the sun, is beginning now to rise on our hemisphere. The more however that I hope from this first day-spring, the more anxiously do I fear, lest any intervening medium should overcast the dawn. I see no cloud, no spot, in our horizon, that can *obstruct*; and yet there is some thing that seems disposed to *refract* and may pervert these rays of opening light. It were much to be wished, that in the use and application of his learning to his argument, he would attentively re-examine whether there be
not

not some refractions causing some aberrations from the strict right line of demonstration. Where any thing has come so near perfection in its way, those, who admire it, cannot but wish it to be, if possible, absolutely so.

If by this mode of resolution and composition of language, conducted by these philosophic principles, the several individual *Literati* were severally to pursue the etymology of those languages, which they are most conversant in; and if universally the *Literati*, in different parts of the world were BY SOME ESTABLISHED SOCIETY reciprocally to communicate to each other the modes of their researches, the institution and issue of their experiments, and the result in their discoveries; there would be found a much greater analogy, and a much nearer agnation, amongst the different languages in the world, than their first appearances offer: such an agnation at least as, fairly traced, would by degrees tend to remove that almost insurmountable difficulty, which lies in the *way of learning*. “*The variety of languages through which that way leads to knowledge.*” Although an *universal philosophic language*, is rather to be wished than obtained; and, if obtained, would be

found not to be retained unchangeable; although I have not, in what I here write, the least reference to any such idea, yet I think such a general knowledge of terms and names, in the various languages of the earth, might be obtained; as that * “ men
 “ might more immediately apply to
 “ things, whereas now a great part of our
 “ time is spent in words, and that with
 “ so little advantage, that we often blunt
 “ the edge of our understanding by deal-
 “ ing with such rough and unpleas-
 “ ant tools.” As Cicero says of Memory, that it is of two sorts, the one more adapted to receive and retain the impression of words; the other that of things † : So are the minds of men thus differently formed, or thus differently trained, that those who have exercised themselves in, and devoted their studies to, the pursuit of things, are seldom so attentive to words, as to become good linguists: and on the contrary, those who have kept their minds amused and exercised within the classic pale of words, and

* Baker's Reflections on Learning.

† Lucullus habuit divinam quandam memoriam rerum, verborum majorem Hortensius: sed quò plus in negotiis gerendis, res quam verba profunt, hæc erat memoria illa præstantior.

compositions of language, are seldom much conversant with that philosophy which looks to things. *A philosophic Polyglott*, formed by means of such intercourse and communication of the Learned in divers nations, might thus be established. Such a Polyglott, examined by resolution and composition of the terms and their component elements, in the corresponding words of each language, by fair reference to the forms and tone, which these elements either alone or in composition, take, in the fashion or habits peculiar to the enunciation or orthography of each language; by a sedulous and cautious enquiry through means of such an established communication into the external circumstances which might originally cause or afterwards affect these terms, as names or appellatives given or assumed; such a Polyglott I say might greatly clear the path of learning, and render more practicable the pass to knowledge, and answer all the practical purposes of an universal philosophic language. I have been informed that there was, but since dead, a learned ecclesiastical Regular in Italy or Germany, who, on the basis of his own single learning and information, with undaunted courage and indefatigable

perseverance, had laboured in a line of research, into all the languages of the world, somewhat similar to what is here suggested. If my information be right, and there now exist any relicks of these meritorious labours, they ought not to be secreted, or neglected, or lost to the world; if they were such as the accounts given represent them to have been, they might be made the ground-work of such a lettered establishment as I have presumed to form an idea of. There are many learned men now living, peculiarly trained in their erudition to become members of such a corresponding society. Lieutenant-colonel Vallency, Mr. Bryant, Mr. Richardson, the Professor at Gottingen, Mr. Gebelin, Mr. Pallas, and the learned members of the society at Petersburg, have shewn in their works, and by what they singly have done, what might be done by such a Society. Labourers are not wanting; the harvest is abundant: and this period, in which the several great nations of Europe are assiduously investigating the various regions of this our planet, and the various people who inhabit it, seems to be the season, when the gathering into stores for use, the fruits of these labours, should be begun, at least should be thought on.

From

From what has fallen in the way of a very superficial cursory reading, such as the writer of this paper, who is neither lettered nor learned, in his detached hours of leisure has been capable of pursuing, I am convinced that a certain degree of agnation may be traced between the languages of the north-eastern and Chinese Tartars with the western Indians of North America; that a very close agnation between the languages of the ancient northern nations of Europe, with the Greeks and Latins, would arise and perpetually occur in every line of this research.

The earliest reference that can be made to that state of civilization which gave source to the ancient governments of Europe, commences at that period, when a race of strangers, advanced to a degree of civilization and improvement in the arts, either as an emigrating tribe, or as a colony of adventurers, first settled in Phrygia amongst a people then living the sylvan-hunting, or roving pastoral life. These strangers, either from an assumption of the title taken up of themselves,
or

or * receiving it from the fervility of a barbarous people feeling their inferiority, or from a translation of a real name, meaning quite a different thing, were called Θεοί, or Gods. They taught the inhabitants Agriculture, whence they became fixed to their habitation, and whence of course arose Civil Society. Over these civil societies they established Polity, and became their Kings and Governors. Who this race were, whether an emigrating Tartar tribe, or whether a Syrian or Egyptian colony, is not as yet beyond controversy settled. Who the people were, amongst whom these gods settled, may, I think, be fairly deduced by a reference to their language in the manner above suggested. Homer, who writes of those times, tells us, that the names of persons, things, and some animals, were different in the language of the gods from those names by which the race of men called the same things. In the course of his poem he takes occasion in two or three instances to mention both names, which each respectively used, whether these gods, speaking in common use the same lan-

* Thus Caliban in Shakespear makes the drunken Trincalo his god.

That's a brave god, and bears celestial liquor!
Hast thou not dropt from heaven?

guage

guage as the people, had (as the Indians of North America have) a *council-language* different from that which was in common use, or whether being of a different race they actually spoke a quite different language, is not clear. The language spoken by men, their subjects, was the same in Phrygia and Thracia, and I believe originally in all the inhabited coasts of the Ægean and Euxine seas. What this language was may be specified from the specifick words mentioned as peculiar to that language. Homer says, that the appellative by which Briareus (so called by the gods) was named by men, was Aigeon; now *Eigeon* in Welsh signifies the Ocean, an appellative exactly suited to the character, residence, and particular power of this great officer, who superseded Neptune. He says, that the river called by the gods Zanthus, was called by men 'Scamander: now, *cammendwr* means crooked or winding water, an exact descriptive appellative of this *winding river full of vortices*. It is common with the Welsh in many instances to prefix the particle *Ys* to many words. Prefix now this to *cammendwr*, and pronounce it, no uncommon way, as we pronounce esquire, and you have 'Scammendwr.

Home:

Homer says, that the night-hawk was called by the men *cumindis*; but by the gods *calchis*; now *calleas* is in Welsh this very bird. The fact here reverses my deduction.

The poet says, there was a Taphos in the plain of Troy, which the gods called the tomb of Myrinne, while men called it simply Batteia: Now Beth in Welsh is a grave, and Beddiad (the same as Bettiat) is in the plural a collective burying-place. The people thus called this burial Taphos by its generical name, while the gods in naming it had reference to some old story of its being a burying-place of merchants, who came there formerly to trade with this foreign people. Horappollo says, that the symbol in picture-writing for merchants trading in foreign parts, was the *Mupaiva*, or lamprey.

Homer in his *Odysee* gives the name of a medicinal plant as called by the gods Moli. He does not mention any distinct name by which men called it. Most likely they adopted the name when they learnt and adopted the use of it, so as to call it by the same. There was a secret in gathering this plant known only to the gods;
and

and the commentators say it is an Ægyptian plant; its root was black, but its head or flower as white as milk. Now, Moli signifies in Welsh a white scurf, especially about the eyes. I could not but mention this latter instance, though, to say the truth, I repose not much upon it.

Plato discoursing of etymology, in his Cratylus, says, But how shall we resolve, or to what shall we refer, those words which are barbarian; as the word Πῦρ, for instance, which is Phrygian. We shall be all wrong if we resolve this to Grecian elements. Πῦρ then signifying fire, is a barbarous word, or of the language of the race of men. Now, the language which has this word with the Π aspirated, is the language of north of Europe, universally for Fier in German; and Fir in Swedish is fire.

We all know that the region which was vulgarly and by relative appellation called Theffaly, was originally named Aïmonia [Dionys. Halicarm, lib. I.] Now Θεσσαλία or Θατταλία, and Θεσσαλία, are the same; but T'uat'dale in the Celtic means, relatively speaking, northern district. Will any one deny that Θατταλία and T'uat'alia are the same. So much for

for the language of men, in contradistinction to the language of the gods.

In like manner many of the names and appellatives given to the heroes acting at the siege of Ilium may be traced directly to their Celtic etymon.

Hector's son was called by a complimentary appellation in Hellenic, Ἀσύαναξ, which Plato says is synonymous to that of Hector, to the meaning of which latter name, Homer almost always adds,

Οἷος γὰρ ἔρυτο Ἴλιον Ἐκτωρ —

or Οἷος γὰρ σφιν ἔρυσσιν πόλεως ἔ τείχεα μάκρᾱ, who alone was the city's defence; or who alone was the defence of the curtain, as modern engineers would express, τείχεα μάκρᾱ. Ἐρυμαι is custodio Protego, &c. and Ἐρυμα is munimentum, præsidium. In this sense in general the word is always taken, and in particular is applied to military ideas, as for instance, θωρακες are called in Xenophon's Cyri Pæd. ἐρύματα σωμάτων applied to the defences of a town, it expressly means a tower or turret (or that projecting defence called by modern engineers a bastion). Thus Xenophon in his Hellenics mentions Ἐρυμα τειχίζοντες, and ταῖς πόλεσιν ἐρύματα περιβάλλονται; somewhere in Homer, but I do

do not just recollect where, it is said Τοῖος σφῖν Πυργὸς ἀπώλετο, &c. which is a metaphor direct to my analysis. Plato, as above, speaking of word Hector says, Δοκεῖ μοι τῆτο παραπλήσιον τὶ εἶναι τῷ Ἀστυάναξι, ἢ ἔοικεν Ἑλληνικοῖς ταῦτα τὰ ὀνόματα ὁ γὰρ Ἀστυάναξ ἢ ὁ Ἑκτωρ οὐδὲν τὶ ταῦτον σημαίνει βασιλικὰ ἀμφοτέρω εἶναι τὰ ὀνόματα ὅμως ταῦτον σημαίνει. Scil. Ἀρκόπολις. The etymon of the name Astyanax is plain in the Hellenic language: But Plato, though he says that Hector means the same thing, does not attempt its etymology. He certainly thought it to be (as he says of the word Πῦρ) of barbarous original; had he understood the Celtic, the language of men, the etymology would have been equally plain to the idea of his commentary. Sciz. *Ach-Twr. populi, seu tribuum, præsidium.*

Paris is in the Hellenic language called Alexander, which is Præsidium Hominum. Priam from *πριαμύνω protego.*

—— ὅς σφιν ἀμύνω

Ἡμαρ ἀναγκαῖον ——

means the same thing; and comes from the same roots in the Celtic, and is of the same compound, Sciz. Bri, Primus Honor-dignitas, &c. and Amwn or Amwg to defend; and means in the compound the

the principal or supreme defender. There is a peculiar coincidence in matter of fact with this notion, that is, that Priaf or Parif is the Welsh (or Celtic) pronunciation of Priam, fo that we fee thefe royal titles, though feemingly different words, have all the fame meaning, and are, as Plato fays, fynonymous. Inftead of ufing as we do George the firft, George the fecond, the third, and fo on; the richnefs of their language enabled them to diftinguifh the perfons of the royal family, although having the fame or fynonymous βασιλικὰ ὀνόματα, by differently expreffed appellations.

The country or region, which was the fcene of this decifive war, is always called by its Celtic name. Tre-oïm, which fignifies the habitation or fettlements of the Oïm or Ovim, or Goujim and Magoujim, for fo thefe people were called; αἶα or ey, ia or ea, are terminations, when added to a name, that means country. The etymon then flood thus, Tr'ò-ia.

Ilium fignifies in the Hellenic language, the *holy dwelling*, or holy city, ἱερον πόλιόν, and Ἰλιος ἱρη, or Ηλ—ῶνον, juft as Beth-el, God's Temple. And the city is generally

generally called by it's Hellenic name Ἴλιος or Ἴλιον.

Τροίης ἱερὸν πηολιέθρον —

It was said to be built by Neptune, a great naval commander, *a god*; and to be sacred to Ἥλ' Ἥλιος, or Apollo: and from the concourse of commercial people of different nations residing or trading here, it was described by Homer as Πόλις μερόπων ἀνθρώπων.

When I first wrote this, I had said, that this city was *always* called by its Hellenick name, Ilios; but mentioning it to Mr. Bryant, he reminded me of two places in Homer, where the city is called *Troia**, Ἐψίπυλος Τροίη. I do therefore, in transcribing this, use the expression *generally*. Ruæus is of the same opinion as Mr. Bryant, that Ilium meant specially the tower or citadel, while Troia was the name of the city,

— ceciditque superbum

Ilium, et omnis humo fumat Neptunis Troja.

Per Ilium, arx; per Trojam, urbs significatur †.

But this distinction does not appear to me, to be well founded; the direct con-

* Lib. XVI. v. 687. and L. XXI. v. 544.

† Not. ad Virg. Lib. III. v. 3.

trary fact seems to result from the expressions used. However the city might on some occasions, and by some speakers, be called the city of Troja, as Τροίης πόλις, or Τρώων πόλις, as in the *Odyssæy*, Lib. IV. yet Ilion was the city, and so it was generally called, while the region was called Troja. Homer, (in Lib. XX. *Iliad*) speaking of the origin of Ilion, says,

Δάρδανον ἀνὴρ πρῶτον τέκετο νεφεληγερέτα Ζεὺς ;
 Κτίσσε Δαρδανίην ἔπει ἔπω Ἴλιος ἴση
 Ἐν πεδίῳ πεπλίισο, πόλις μερόπων ἀνθρώπων.

Here Ilion is expressly called the city, inhabited by men of various languages. The capital of Troy, before the building of Ilios, was up in the highlands near mount Idæ ; but Ilios, built as a commercial city, was built in the plain ; κατωκίθη δὴ, φάμεν ἐκ τῶν ὑψηλῶν εἰς μέγα καὶ καλὸν πεδῖον, Ἴλιον ἐπὶ λόφον τιναὶ οὐκ ὑψηλόν. (Plato de Legibus, Lib. III.) In the same book, a little further on, he expressly distinguishes the region Troja from the city Ilion by their specific names. Of the region, he says, Τροίαν ἀνάσταλον ἐποίησαν, δεκά ἔτη πρὸς μείναντες. They kept the region Troja under a state of devastation for ten years together : but of Ilion he says, τὸ Ἴλιον ἐπολιορκεῖτο ; the city was blockaded. Herodotus also (Lib. I. § 5.) calls the
 taking

taking of the city ἡ Ἰλίε ἀλώσις, and plainly specifies the city Ilium to be distinct from the country (Lib. II. § 118.), where he says - - - ἐλθεῖν μὲν γὰρ εἰς τὴν Τευχρίδα τὴν Ἑλληνὴν Στρατιὴν· ἐκβῶσαι δὲ εἰς γῆν ἣ ἰδρυθεῖσαν τὴν στρατιὴν, πέμπειν εἰς τὸ Ἴλιον Ἀγγέλους. That Ilium did not mean the citadel is as clear as language and description of circumstances can make any thing so *. Hector is said to have taken his position Ἰλίε προπάροθε. If the city had been taken; and the citadel was still defended by Hector, this would have been proper; but he stood before the city. The great riches of the populous city Ilium are spoken of

—— εἶδ' ὅσα φασὶν

Ἴλιον ἐκτῆσθαι εὐναιόμενον πολίεθρον—

This expression is proper for a great city, but not for a citadel.

But to proceed with further instances of *this language of men* spoken in these parts. The Pelasgic Temple, built amongst these sylvan inhabitants of Epirus, was called by the people; amongst whom it was built, the Oracle Dodona, which in Welch is literally *Duwwedwin*, God's Oracle. The priests were called

* Lib. XV. v. 66.

Selloi. Now *Sellwr* is in Welch one that seeth things at a distance. Calidonia, Calldun, Duncald, Gwaldun, The Wolds, or wooded hills, is a name found in every part of Europe, from east to west; and it is remarkable, that in the westernmost point of England, and in the mountains of Cilicia, there should have been two castles of the same name, Pendennis; that in Cornwall now exists; that in Cilicia is mentioned by Cicero. I mention these things, not as facts establishing proof, but as instances of the use of reasoning from the agnation of languages. And may we not here venture to suggest, without being liable to the imputation of whim, that as far as it appears from these words, specified as peculiar to the language of the people, which are now found living, the Celtic language was the language of those sylvan people, then called *Coilte*, *Coitæ*, *Κετέεις*; *Gualtæ*, or *Gallatæ*, meaning Woldsmen, and afterwards in the west of Europe called *Celtæ* and *Galli*? There are many arguments which arise from geography and history, which support this idea.

Reasoning on the same principles, and by the same etymological deduction, may I not acknowledge an agnation, to a certain

tain degree, between the language of the Indians of North America and that of the Tartars of the north-eastern parts of Asia, when I find them using the same kind of prefixes and affixes in compound, to describe the relatives and circumstances of persons, places, and things; when I find the one and the other using the same or similar appellatives, in many cases the same words, and in the numerals some words too similar, and too similarly following in their series to be, imputed to accident? May I not impute this coincidence to some agnation in the language of these different people? But when I view them both of the same copper-coloured tint, both having the same texture of hair, both of the same model of skull, I cannot even doubt of the agnation in the race also.

Both the Tartars and Indians, when they mean to speak of a people as to their tribe or nation, compound their name with the word ach, ack, acha, or aga, which people of different countries and climates, from an almost impossibility of sounding the guttural exactly alike by organs of a different texture, pronounce very differently; some sounding it ax, others aga, agua, others aks, iki. When the Europeans endeavour to pronounce or write the Tar-

tar names of their tribes, they spell them, Osti-ack, Budzi-acki, Cofi-ack, and Cross-aqui, Carakelp-iki, Calm-uicks, Com-uks, Perm-iki, &c. The European interpreters in America (generally pedling traders, very illiterate and ignorant) when they attempt to express the Indian pronunciation either in speech or writing, make also various terminations of the same word. 'Saki, Sissis-aki, Messis-agaes, Sen-aga, or Sen-aké, Ononda'-agaes, Cayug'-agaes, Canyung'-agaes, Aban-aquis, Aban-ikis, Cherekees, or Chara-agaes, which the Spaniards pronounce Cheri-aguas. What in copying the Tartar word is written, Sayoth a hunter in Europe, is by the French in North America written Sieux. I must observe *en passant*, that ach in Welch and Irish signifies tribe, race, or people.

* Ski written variously, as skoi and skoia, ski and skie, skaja and skaja, when affixed at the end of a Tartar word, signifies the area or district so called. To quote examples of this would be endless; the reader needs only to throw his eye on any map of Siberia or Tartary: ski in the Indian language variously pronounced, and written by our interpreters, as skey, skeag, skaid, scot, scut, affixed to ends of words, has

* Thus *Sky* in English does not mean the firmament, the heavens; but the expanse—the celestial horizon.

the

the same meaning; multitude of instances of which the reader will find in any map of North America.

The Tartars, originally call Oiim, Ojim, Ouim, Gojem; Tjeudæ, Tjeutæ, use particles of words, which, prefixed to the names of places and people, signify relative positions, as, *on this side*. or *on the other side*, *over*, *beyond*, also a particle which seems to signify *under*, or *below*. These particles are ma, mai, maje, or maest; es or esk; and ja; as Ma-gougi, Igougi, and Ia-gougi, Schin, Maeichin, Zchin, Scheudi, Ja-dſceudi, and Ma-dſcudi. The Indians of North America have the same prefixes, with this observable circumstance, that in pronouncing the es or esk, they accompany the enunciation with the motion of the hand from them; in enouncing the mai, with a motion towards them. Whether the Tartars aid their speech in like manner with action I know not. To give one or two instances rather as explanation than proof, we have seen above that ack, aks, aqui, or aga, means in the Indian language, tribe or race. Now, the Indians, by adding 'sk, 's, and ma to this word, express the remote or hither tribes; 't-aks means the first, and massafaki the second; both which relative appellations are found

amongst the Western Indians. Oghneghta is a pine-tree, Oghneght'ada is a country of pine-wood, 'Sk-oghneght'ada is the country beyond, or on the other side of the pine-wood; hence comes the name of the town on the Mohawks river in New York, called Shenectady; but to mark the power of this affixed particle the stronger, it is to be observed, that when an Indian at Skeneectady speaks of Albany, he calls Albany 'Skoghneght'ada. Caniaderi is a lake, Caniaderi-ada is the country of Lakes, 'Scaniad-eri-ada is the region beyond the country of Lakes. Watchufet, or Watshufed, is a great mountain, so called, in New England. The country next the sea, when the first settlers sought the name of it, was called Maestchufed, Maef-tchufet, Massatchufet. The names of that tribe of the five nation Indians, who are by English and Dutch in New England and New York called Mahawk and Maquas, is Can-yongwe-aga, *the people who are at the head of men*; but the appellation given to them by the River and New England Indians, was Ma-aga or Ma-aqua, and Ma-ach', which signifies the hithermost tribe, or that tribe of the Five Nations which was nearest to them; and in the like manner, the tribe whose actual appellation was Tsononteouana-aga, signifying

nifying the tribe which lives on, or over, the great high mountain, or on the height of the land, called by the French Tsonontuans, and by the English and Dutch vulgarly Senekæes, is so called by the relative appellative 'Sen-agaes, or the furthest tribe.

In like manner, considering the indefinite impression which the sounds by which the name of the Tartars were originally expressed, and the vague use made of the elementary characters by those who first wrote them, Oïm, Ojim, Ogim, Ovim, Goigim, Tjeudim, or Tjeudæ, and Tjeutæ. I see the very Tartar name in the word Tjetæ, Tjeutæ. To this applying the prefixed particles exactly and precisely as before, I find the 'Stjeuthæ, Mais-Tjeuthæ, the Scythæ, and Massagetæ, the *yonder* and the *hither* Getæ, Goethæ, or Jeuts. And to go one step further in this explanation, when I find the Getæ written by the Greeks ΚΕΤΙΕΙΣ, and by the Hebrews, Chittim, or Chedim; and then see the name of the people of Mecedonia, written Μακεδονίαις; I do not hesitate to analyse this word Ma-chedim, or Macedon, the *hither* Chedim or Chittim. There is another very singular circumstance of similarity between the names
of

of the numerals of the Western Indians of North America, the Chipouâes, and those of the Northern Tartars of Kamfchatki.

	<i>Indian</i>	<i>Tartar</i>
One	Peskick	Innen
Two	Neech	Neach
Three	Nizoûy	Nioch
Four	Ni-annin	Nizach

The singular circumstance, which strikes me, is, that of the unit seeming in both to belong to a different series from those of the two, three, and four, and in both changing to words beginning with Ni or Nee, instances which I desire may be understood to be adduced as examples or illustrations, not proofs. I think the use that the truly Analytick etymology (not the Synthetick one taught to school-boys) may be of to the philosophick Antiquary, will evidently appear. I have presumed to point out the nature of the resolution and composition by which this analysis should proceed, as depending on an experimental knowledge of the efforts and operations of the organs of speech, articulating the elements of words according to the internal constitution or external circumstances by which they are affected in different countries and climates, and at different periods
of

of civilization. I have also presumed to suggest an idea of a method by which this truly analytick etymology may be conducted to general purposes of knowledge, by such a *comparative polyglott* of the terms and names of things in different nations, as shall answer to the purposes of that great desideratum, an *universal language of philosophy*.

Another, and indeed the next branch in the analysis of the philosophic Antiquary goes into the inquiry after the various methods by which men in the early periods of their civilization, aimed to fix the fleeting expressions of speech in permanent palpable symbols, that should remain under the eye. This research will shew, that the first efforts which men have made in all countries to mark for distant places and times, the inevitable transient expression of ideas which speech gives at the present time and place, have been exerted by making general *portraits of the ideas*, not by *detailed characters of the elements of speech, compounded into pictures of words*.

The writing of all people in their first efforts has been invariably a picture representation of Time; of the seasons; of
concomi-

concomitant circumstances of the seasons, expressed by various pictures of the sun, moon, and stars, of birds of passage, of the animals peculiarly attendant on times of inundation, or drought; by various plants; and by many other objects. When they endeavoured to fix a record of persons, things, and actions, exhibiting to the corporeal eye picturesque allusions to those conceptions, which could be seen only by the mind's eye; they then simply and naturally translated and *drew in pictures the metaphors* and symbolick characters, which in their language, they used to express their ideas by. Actions they expressed by the instruments used in exerting those actions: And the temper or designs of those actions, or actors, by pictures of animals, in whom decidedly this or that temper was supposed to predominate.

I proceed no further here in this research; as I have in a tract expressly written to explain the origin, nature, and interpretation, of picture-writing *, and hereunto annexed, gone into a full examination of it. I will therefore beg leave to refer the society to that tract, and will

* Appendix, No. II.

proceed to explain the use which I think may be derived from thus considering the picture-writings of the ancients, commonly called Hieroglyphicks. It appears to me, that if the Antiquary would hope to collect any information from these ancient inscriptions, he should, instead of searching amongst the Stoicks, the latter Platonists, and the Trismegistic Philosophers, for mystical allegories, and divine romances, endeavour to collect all the collateral accounts which are any where to be met with of the civil and natural history of those countries, where any of those picture-writings do remain; as also (if it were possible to find such) to search out the gradations of the several stages of the community in its civilization; the progress of the clearing and cultivating the land, and particularly the state of its cultivation and produce; the instruments of husbandry, the machines and tools of the arts; the weapons of their military, and navy, the ensigns of office; their mode of numeration, weight and measure; their opinions, external forms, and ceremonies of religion, with utensils and instruments used in their rites; and where it is possible the turn and phrase of their language. If the Antiquary could obtain any actual information
in

in these particulars, and should then go to the reading this picture writing, without any previous prejudice or impresson of their containing abstruse and mystick doctrines, he would most likely find these inscriptions to be plain and sober records of the history of the country or people; or registers of the state of it, or regulations respecting it; or memorials dedicated to the honour of some king, containing the state of his administration, and the history of his actions, thus held forth to the admiration of the people *in the vulgate picture-writing*; or rolls of the public revenues, and payments to be made set down in numbers, weight, and measure. Kircher, and all the Trismegistick doctors, down from Jamblichus, copying the whimsies or designed perversions of the Platonists, have not only made such unintelligible stuff of these inscriptions as nobody ever could be, or ever was, satisfied with; but have created even a despair in the learned of ever finding out any interpretation at all, if these inscriptions are to be still viewed as the images of an intellectual system of incomprehensible mysteries. As these learned romancers have had their full scope of experiments, which have ended in the abortion of phantom, if men will at length venture to think

think for themselves on facts as they come before them; they will find that all this contemptible stuff, about which so many bulky books have been made, began with the philosophers who wished to throw *a veil of Physiology* over mere fables, which superstition had sanctified; and hath been derived down from them, and from no where else.

That the Egyptians had in their picture-writings symbols by which to express their ideas of the Supreme Being, and of the various manifestations of his Providence, is certain, as well as those of any other idea; and the images and idols of those ideas led both to the *gross and the mystick idolatry*, and were perhaps in Ægypt the cause of it: but that all their inscriptions were sacred, and cabalistical scripture of their religion, and nothing else, was an *After-thought* of later philosophers, in order to cover the grossness of their idolatry by a veil of physiology.

One instance will, as I think, who venture to think for myself, be sufficient to the purpose. Let any man of sense and learning read Kircher's interpretations of the Obelisk which he calls the Pamphylian Obelisk, and be willing to believe all that
Kircher

Kircher makes out. I will defy any such man, unless he be predetermined, to rest satisfied, or to think he has learnt any thing, even one simple idea, from all that is thus interpreted. But even if he should affect, because he would be thought learned, and in the secret, to say that he is much informed, and has acquired knowledge from what is interpreted; I should then hope to be taught from such learning and knowledge what all those elementary characters and lineal diagrams mean to express, which Kircher has passed by unnoticed, as though making no part of the inscriber's intention. If none of these learned men can satisfy me, as I know none that can, or that hath attempted it; and if I then look upon these inscriptions, and compare the figures and diagrams with things similar, which have been in use amongst men in other parts of the world; I see clearly in some parts, elements or letters; I see numerals, and combined numeration; I see measures of weight, capacity, and extension; and I see these numbers applied to the numbering those measures, and see them variously combined, and repeatedly occurring in these combinations. When with these ideas I view at the top of the obelisk the enthroned figure sitting and receiving

receiving the offerings from persons appearing to be of the different classes of subjects ; as priests, soldiers, &c. I cannot consider the whole of this Obelisk other than a mere register, or record, of the nature, force, revenues, and regulations of the king there, in his several capacities, represented on the several sides of it. I cannot but see that each side respects each respective order or class of the subjects of the kingdom. When I look to the undoubted and decided symbol of the supreme, eternal, universal, intellectual, first cause, at the top of the Obelisk, over his head, and view this king and his subjects, by one superscribed and comprehending line, collected into one group, or as one object under the providential care or influence of this first cause, I cannot but consider this record and register as meaning to give and to hold forth the most essential true principle of all just and right government, as subsisting under God and his Providence. And when I see the symbol of the vivifying Spirit of this material world, attendant on a crowned hawk, at the head of the record or register, I cannot but remark how decidedly this marks the derivation of this animating spirit into the actual exercise of the government itself, of which the following in-

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scription.

scription is the record. In order to give my idea of these characters and diagrams, which I suppose to be, some of them *elements or letters*; others to be *numerals*; and by their combinations *various numerations*; also of the others, which I suppose to be *measures of weight, capacity, and extension*, which also are variously combined, and which also, together with the numerals, form again various combinations; I beg leave to refer to the drawings which I have annexed to the Treatise, N° II. of the Appendix. As I have made so free with the interpretation given by others, and even with those of learned men, I do with the same freedom acknowledge, that I give this of mine as a mere experimental essay in the application of the principles above stated, and not as a matter either proved, or capable of proof: fully however as capable of proof, as any of the old adopted interpretations: capable of proof * by analogy to similar things actually existing, and not from the afterthoughts of mystic priests and philosophers making comments of perversion, not interpretation. I find myself however, supported in my manner of interpretation by the similar interpretation which Herma-

* Vide N° II. Appendix.

pion (as quoted by Ammianus Marcellinus) gave of the Obelisk in the great Circus. There is on each side, or face of this Obelisk, a mitred person, sitting on a throne, with a person of inferior subject-rank kneeling before him, and stretching forth his hands, as in the action of offering. And Hermapion begins his interpretation just as I have done.

Τὰ δε ἐστὶν ἃ βασιλεῖ Ραμέση δέδωρήμεθα.

The things here inscribed are what we have given to the king Ramestes, &c.

As the language of men in the first gradations of their civilization is all metaphor and simile, and the writing of the same, in their progressive advances, is all picture and painting; so the memorials and history of those times must of course be mere allegory and fable. If now the unprejudiced Antiquary will here consider things to be as what they actually are, and must have been; if he will conduct his research into the interpretation of the *Ancient* fabulous history, as originally, and simply the pictures of a rude people; he may arrive at very distinct accounts of the first ages of civilization; of the establishment of government; of the progress of Commerce; of the settlement of colonies, and

of the causes and effects of piracies and wars. I mean to be understood as speaking here of the accounts of the scite and circumstances of the people; of the spirit and nature of the times; and of the various revolutions amongst mankind in these their first progressions, although perhaps not of the actual persons and actors in this drama, which by the bye is of very little use, except to aid and fix the memory.

History hath been compared to a great ship floating down the tide of Time, fraught and replete with the precious cargo of knowledge; but if this representation of history be true, and if ever such a ship was so freighted, unhappily it hath never reached these our ports. The vessel has suffered shipwreck; and the valuable stores, which it is said to have contained, are sunk and overwhelmed under the waves of deep oblivion. Some fragments of its bill of lading have come to hand; some parts of the drifted wreck have by the tide been thrown upon our coasts; some buoyant parcels of the cargo have been found floating on the surface; and some even valuable articles have been fished up out of the wreck: but none sufficient as yet, to give a clear and precise
idea

idea of the vessel which was freighted for us ; nor of the cargo which was meant to have supplied the wants of this knowledge. Here then the studies and researches of the Antiquary come in aid ; it is his office to collect all the fragments he can find drifted on the wide ocean ; to dive for, and to fish up from the wreck, every thing that can be recovered : And finally, when that can be done, to assort all these together by various repeated experiments, led on by what their matter and forms promise, so as to form some theory at least of the system of which they were parts. If he be but a superficial, or a hasty theorist, he will most likely be mistaken ; yet the correction of his mistakes may lead to better knowledge. If future discoveries evince, that even those conjectures which were formed under the most patient and philosophick temper of investigation, are wrong ; the correction of the error will at least have been a step in the gradation up to knowledge. It is by these collections of the multitudes of parts and parcels ; and by the thousand varied experiments in assorting them ; that the study of Antiquities is in a gradual, although perhaps slow approximation to knowledge. To make cumbrous collections of numberless particulars, merely because they are frag-

ments; and to admire them merely as they are antique; is not the spirit of ancient learning, but the mere doating of superannuation. It is not the true religious study of antiquities, but a devotion for relicks: It may make us enthusiasts, fanatic triflers, or dupes, but can never administer real and sober knowledge to our understanding. Great and meritorious pains are taken to collect every specimen of antiquity which arises by the evacuation of the ruined Herculaneum and Pompeii. When the true spirit of the Antiquary presides over these works, the researches are conducted by systems that lead to knowledge; when that is absent, the true vulgar idea of making *Collections of Antiquities* leads to examples of genuine absurdity, like the following, which I was told as a fact *. In the course of their works the labourers met with an inscription, the letters of which were brass fixed in marble; these brazen letters they carefully picked out of the marble, put them into a basket, and in that state they remain deposited in the king's library, as examples of curious antiquity, in hopeful expectation of the return of some Sibyl, who, restoring the

* I do not make myself answerable for the fact, but refer to the story as an illustration of that ridiculous search into antiquities which I mean to reprobate.

letters, like her dissipated leaves, to their order, *may* give the sense of the inscription, which was forgotten to be noticed at the first discovery. Should the wreck of an ancient ship ever be discovered, a collection of a multitude of its timbers, knees, ribs, beams, standards, fragments of masts and yards, bolts, planks, and blocks, would be *une chose à voir*, and would make the learned as well as the unlearned stare and wonder: but the eye of knowledge would find no rest nor satisfaction there. Where the truly learned Antiquary (by an analysis of the first principles of naval architecture, and by tracing these principles in all possible combinations which the materials admit of) attempts various experiments of combining these fragments into some form, which, as parts, correspond to some whole * — there arises the true spirit of antiquarian learning; there begins genuine and useful knowledge. It was in this genuine temper of experimental reasoning, that the spirit and genius of the Romans, analysing the principles of naval architecture, and combining the fragments of a wrecked galley cast upon their shore,

* Vide below the example given from general Melville's learning and science on this very point.

commenced with such success and glory their naval power. As of the example in fact, which the reasoning on the foregoing metaphor had led us to; so by the like analysis, and combination, may the remains of every branch of antiquity be restored, at least to some semblance of its original.

Man is a being finite and circumscribed in his *natural wants* and desires, and in his powers, which are however always proportionable to the supply of these wants. View him in the various progressions and revolutions of his being, through the continued encreasing series of his *artificial wants*, and of his *improved resources*; still his scite and circumstances mark the first, and the limitation of his powers make not the enquiry after the second a boundless pursuit. Those, who in different ages have reviewed this being in different regions, under different habits and modes of life, know how little he is able to vary, how little to expand his powers. Being the same kind of hunter, or herdsman in sylvan life, through all ages and countries of the like circumstances; he becomes, when he quits that life, the same kind of landworker; the same kind of subject of society; the same warrior; in every age

age and region under the like circumstances. Could we have a vestiary of all the cloaths of every country, in all periods of its cultivation, we might at first be struck with the variety of appearances; but a serious attention would find little difference in all this variety of forms, except what heat or cold, wet or dry, called forth. Whenever we have been able to compare the domestic utensils and instruments which real use hath given invention to, how little do they vary! They are almost the same with every kind of people. However much the warrior has endeavoured to add terror to his force, in the invention of new ways of murdering, yet how little hath he been able to vary these inventions! The instruments of war, as of like use in like hands, are similar, and scarcely varied, in any the most differing nations. Nay, where vanity has grown wild in fancy, and racked invention to produce a motley frippery of ornament, the ornaments of all nations, from the savage to the most refined, are much the same*.

* See the various specimens of utensils, habits, weapons, &c. of savages, in Sir Ashton Lever's Museum; and compare those in the light of use and in their essential circumstances, with the highest refinements of the most civilized nations, and you will find that they scarcely differ.

It is from principles which conduct this reasoning that I venture to deduce the following theorems. That even where history has suffered shipwreck, as the allusion above describes, and where only a few reliques and fragments, buoyed up in *fables and mythology*, have come down to our age; yet where those fragments mark the particular state in the progress of human life which they refer to, I say, reasoning from the analogous similarity of man, much more even of historick description of that state can be formed from these broken deformed materials, than the first superficial glance of undiscerning literature would imagine. What can be the events of the sylvan life, whether it is carried on by clans of hunters, or hordes of herdsmen? The first may make war upon the beasts of the forest, or quarrel with their neighbour hunters about their game or their hunt. The second may endeavour to drive the beasts of prey from their *quarters*, or quarrel with like herdsmen about pasture and water, or about their cattle, which have strayed, or have been stolen. This is but a single drama, and has been acted over and over a thousand times,

in different periods and regions of the world. The first will war, as they have been used to hunt, by covert stratagem, to utter extirpation. The second will, by open force, attempt to drive their enemies, as they have been used to drive their herds, but their war will end in negotiation and settlement. This we have known, and do know, to be the case, wherever we have been able to trace the history of any such nation, in such stated progress of its being. If therefore any fragments and relicks of antiquity point to this period in the progression of human life, we cannot be much at a loss how to recompose these into the system, of which they are parts. If in very antient books, as those of Hesiod, Homer, and Herodotus, we read actual portrayed descriptions of this life; if we trace, although in fables, draughts of the history of small companies of wandering hunters and navigators, carrying all the lineaments of that portait, we cannot be totally without a line, by which to finish the imperfect sketch from point to point, as the scatrered fragments lead. By a careful analysis therefore of human nature, and by a combination from analogy of such broken accounts as the shipwreck of history affords; a description,

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I had almost said an historic description, of that first, original state of the human life, which we insolently call savage, and even many footstep traces of their motions and actions, to all the purposes of useful knowledge, may, by the truly philosophic Antiquary, be obtained. If we read in never such obscure fragments, and but in fables, accounts of man quitting his woods, and beginning to till the earth, cleared of its original vegetation ; if we read of the individual thus become a *fixt Being*, and, by intercommunion of mutual wants, *coalescing into Society* ; and of that society, by the progress of human nature, forming into an organized body ; a very few traces of that process will lead to a just idea of the whole operation.

Knowing from fact how thinly scattered through the woods and wilderness the individuals of the sylvan life always are and must be : with what superabundant population the first fructuation of an advancing society is loaded ; and that the surplus parts of this plethoric body always have and must emigrate, going into the borders of and amongst the rude inhabitants of the yet uncultured world ; sometimes
as

as armies, sometimes as merchants, sometimes as colonizing settlers; knowing, I say, this to have been in fact the invariable history, and the repeated drama of the early stages of life, we can be at no loss to understand, although it is recorded by pictures, and told in fables, the commencement of history in the fabulous ages, at the commencement of civilization in the countries bordering on the Mediterranean and Euxine Seas. These fables represent gods and heroes as going forth from settled civilized states, to travel about the sylvan world, either with armies as destroyers, or with colonies as benefactors of mankind; in one case, reducing the poor aborigines to slaves; assuming to be of a superior race of beings; calling themselves gods, and becoming real tyrants: in the other, like the Supreme Being himself, instructing them in all the arts of cultured life, and communicating the benefits of it to them; the culture of bread-corn, of the grape, of the olive, of the propagation of the fruits, legumes, and esculent roots, of the earth; the propagation and nature, the life and service, of the domiciliated animals; the communion of society, the protection of government. Although this is told in allegories

legories and fables, although the foppery of the learned working upon the homely tissue of those early ages may have embroidered it with systems of *mythology*; and finally of *physiology*; yet whoever gives unprejudiced attention to, and views with untainted eye, the facts which form the *fond* of these fables, and compares them, in the true spirit of analogy, with the accustomed and known course of the human system, may draw a very strong likeness, if not an actual portrait, of the history itself.

When I read of the *first voyages* into the *Ægean*, *Euxine*; and *Mediterranean Seas*, made by the various adventurers who were afterwards, although perhaps of different nations, certainly living in very distant periods, tied up together in that historic bundle, called the *Argos*, canonized as a sign in the heavens, and who were called *Argonauts*; whether that fable be meant to describe the progressive voyages of a nation (as Mr. Bryant supposes), or whether the actions of a particular band, or a series of adventurers; whether the personages there characterized were *Greeks*, or (as I rather believe) *Egyptians*, or *Syrians*, makes no difference:
when

when I read this, and compare it with the voyage of Columbus and other Adventurers to the New World, I am at no loss to understand the nature of the adventures, as well as of many parts of it. When I read, although in fables, of the Egyptians, Edomites, and Tyrians, *settling* on the coasts, and in the islands of the Ægean Sea, and of their passing the Bosphorus, and forming various settlements in the Euxine Sea, particularly their great settlement at Colchis : when I read this, and compare it with the voyages, adventures, and settlements of the Portuguese in Asia, and then pursue the use of all this by a detail of their trade, I am at no more loss to comprehend the former, though told in fables of golden fleeces and golden apples, than of the latter, delivered in sober historic journals. When I read of the travels and conquests of Osiris, Bacchus, Sesostris, &c. and the various Hercules, and such like personified characters, and compare this with similar travels, voyages, adventures, and conquest, of Cortes, Pizarro, and other Spaniards, how is it possible not to see the real history through the veil of metaphors and allegories, which have transformed it into Fable ?

When

When I read of a set of foreign adventurers making settlements in the islands, and on the coasts of the Ægean; of settlers coming from some country advanced in civilization to a country wherein the inhabitants still lived the sylvan and pastoral life: when I read of these calling themselves *gods*, *children of the sun*, or *Hellênoi*, taking the lead and government of *men*; when I find these gods and their sons settled in different parts, in Phrygia on one side, and in Greece on the other (become in the course of their transactions different and rival powers with different interests) quarrelling with each other; when I read this, and compare it by analogy of facts, which we know have actually happened; with what the Spaniards amongst themselves, and the Europeans amongst one another, have done in their settlements in the East and West Indies; I am at no loss in understanding the facts of the *War of the gods*, nor why Neptune, or rather Poseidon, took the opposite side against Jupiter; he was at the head of a separate interest, and had been superseded in his command of the Ægean by the nomination of Briareus * to that command.

* Iliad, B. I. ver. 405.

Ὅς ῥα παρὰ Κρονίῳνι καθέζετο, κῦδει γαίων—

Neptune had built Ilium near the mouth of the Bosphorus, which might command the exclusive navigation of the Euxine, and support his interest amongst the northern people there; but he was deceived in the effect; he got a quarrel with the Trojans, and he lost his interest and office at Jupiter's court: And had become the avowed enemy of Ilium, the building of which was his own plan and measure. In the next generation, when those gods had left the earth, this Ilium became (as Carthage was to Rome) a rival object to Greece that must be destroyed; it was that which had robbed them of, and held them excluded from, their dearest and most beneficial connections of commerce. The Greeks carried their point, and for ages after, especially the Athenians, supported on this basis of the commerce of the Euxine Sea, their government, riches, and power. The constant and invariable measure of the Athenians, to maintain a commanding (if not an exclusive) interest in these regions of this sea, and the various attempts of other powers, Grecian as well as Asiatic, to wrest this from them, or at least to share it with them on equal terms, became the repeated occasion, and

F certainly

certainly the decisive point of the future wars which they were engaged in.

A knowledge of the nature and extent of this Euxine commerce and navigation; adequate to its importance, and to the effects of its operation, is no where stated in ancient history; and yet information on this important point would prove the best comment and guide to the knowledge of some of the most interesting parts of the History of the Greeks and Asiatics. There are many fragments and scattered parts of such information, which lie detached; many other parts interwoven as mere circumstances in affairs of another nature; many that might be fairly deduced; and many that would give and receive reciprocal illustration to and from matters they are connected with. Here opens a path of curious and interesting research to the learned philosophick Antiquary. The history of antient commerce, written by Monsieur Huet, bishop of Avranches, treats of this generally, and indeed but superficially; but from what the very ingenious and learned, Mr. Clarke *, in his Treatise on the Roman,

* Rector of Buxted, and chancellor and residentiary of the church of Chichester. Printed for Bowyer, 1767.

English, and Saxon coins, has in part, and merely as a collateral argument, explained on this subject; He has not only shown the importance of it to the knowledge of Ancient History, but has in great measure by his learning and knowledge supplied this interesting Desideratum. He has done so much, in so clear and distinct a line of demonstration, that there is no one, who has read the few pages which he has written on this subject, but must wish that the same ingenuity, the same learning, the same knowledge, was engaged to write a special treatise on it; from the first Egyptian or Syrian trade and settlements, to the breaking up of it by the Roman arms; and the final destruction of it by the recoil of the deluge of northern people who overwhelmed all. These regions, and these commercial settlements, were the *Chittim* of Sidon and Tyre; the *America* of the ancient commerce: the merchants carried thither all the same sort of wrought goods and articles of improved civilization and manufactures as the Europeans carry now to America; and brought from thence, in the rough, lumber, especially ship timber, peltry, furs, wool, thread, yarn, corn in immense quantities, and slaves. One cannot but wish also, that Mr. Bryant would

employ his great talents, and literature, to a like explanation of the western regions of the Mediterranean and Atlantick. This was early distinguished by being called, in the triple division of Saturn's empire, the district of Dis, or Pluto, the God of Riches. This was the other great commercial region of the Ancients, the Tarshish of the Phœnicians and Tyre. No man has read more, or with more precision in the ancient accounts of these matters; no man is a better judge of them; and surely there is no literary or perhaps no practical useful point of knowledge to which his literary researches could be more beneficially directed. The principal exports from hence were silver, tin, and most other minerals and metals; timber, corn, oil, some butter, wax, pitch, and tar, saffron, the ocras, and wool. The people who settled and possessed these regions, employed a multitude of shipping: and settled many rich and flourishing colonies, as well many entrepôts, and out distant factories; and held all these settlements and this commerce as exclusive against all strangers: I believe also it will be found, that many of their regular priests, the Magi or Gours, did (as the regulars of modern times and religions have done) settle missions amongst the
natives

natives in these most distant parts. The original Druids (however their successors may have become corrupted) will, I am persuaded, turn out to be those very priests, establishing just such missions, on exactly the same principles, as the Jesuits have done in Paraguay, under a like hierarchy.

When this subject comes once to be considered as the exertions and transactions of man (always the like being in like circumstances), all the metamorphosic fables of the Ancients turning politic and commercial people into horrid and savage monsters, will, like clouds before the sun, dispel and evaporate before the light of truth. We shall hear no more of a great and scientifick people employing the superiority of their knowledge in catching men as their food; no more of beautiful accomplished women employing the magic of their charms to entrap men, to eat them; no more of a race of innocuous shepherds and goat-herds who expressly lived on milk and cheese, the produce of their flocks, being delighted with the venison of human flesh. We shall see all these perverted and exaggerated traditions (passing from the accounts of the very interlopers and pirates, against whom

their laws were made and executed), explained from the plain simple state of the *exclusive possessions and commerce*, which these people, as colonizing nations do at present, assumed and maintained: many of the stories, told as the cruelties of savages, will turn out to be the severities and the rigid executions of the courts of justice, which these people erected at their maritime stations to try offences committed against this their establishment; and to punish pirates, to whom they gave no quarter, as the common enemies of the communion of mankind; as wretches,

‘ * qui sublatis commerciis, rapto foedere
 ‘ generis humani, sic maria bello, quasi
 ‘ tempestate præcludunt.’ I could here, myself, prove (I think beyond contradiction) in some of the strongest cases, which seem to bear the hardest on these people, I mean in the case of the Cyclops, of Minos and Rhadamanthus, That although they suffered no strangers to come within their settlements, and punished all such as they found interloping there; yet they made a distinction in the case, whether such came with design to trade; or were driven thither by accident; and more especially between these and direct pirates.

* L. Ann. Florus, Lib. III. c. 6.

This appears from the inquisition taken by the Cyclops on Ulysses and his associates * :

ὦ Ζεῖνοι, τίνες ἐσέ; πόθεν πλεῖσθ' ὕβρα κελεύθα;

Ἦτι κατα πρῆξιν; ἢ μαψιδίως ἀλλήθοσε;

Ὅϊάτε Ληϊστῆρες ὑπὲρ ἄλλα τοί τ' ἀλώωνται

Ψύχας παρθέμενοι, κακὸν ἀλλοδαποῖσι φέρουτες;

These distinctions in the case of the prisoners are here formed; and even, as will be seen afterwards, distinctions as grounds of mercy are suggested by this horrid, profane, blaspheming savage Canabal, as he is called. Where, says he, have you stationed your naval armament that brought you here? is it on or beyond the borders of these regions, or is it within our precincts † ?

Ἀλλά μοι εἰφ' ὅπη ἔχες ἰῶν εὐεργέα νῆα;

Ἦ πῶς ἐπ' ἐσχατιῆς; ἢ χεῖρ σχεδόν; ὄφρα δαιεῖω.

Could they have proved that they had not entered the precincts of his jurisdiction with armed force, he here seems to lay the ground for their acquittal: But if there was no distinction made in the case of strangers found within their settlements, there is neither use nor common sense in the questions asked.

* Odyss. Lib. IX.

† Ibid.

Although Minos was represented by those ancient rovers and pirates as a man *, ἀπαιδευτός, χαλεπός, φάυλος; and that he † was τυραννικός, βιαίος ἢ δεσμόλογος, although Rhadamanthus, whom he appointed as judge in his courts, there held

—————, *durissima regna,*

and was hard and severe, even to cruelty; yet Homer and Plato both bear testimony, that every thing which Divine Wisdom, God-like Benevolence, and the clearest and purest Justice could give to man, was the character of Minos, the pastor, protector, and governor of his people: and that the other was a wife and just judge:—and see from Thucydides the effect of these establishments made by Minos †. † “ He
 “ formed a navy, and cleared the sea of
 “ pirates; he expelled the robbers out of
 “ the islands, and settled colonies of in-
 “ duftrious people in their room; so that
 “ the seas were open and free to com-
 “ merce, the people could *become settlers*
 “ and dwell with safety; and became
 “ rich and happy.”

If this mode of investigation and consequent explanation of this subject be pur-

* Platonis Minos.

† Strabonis, L. X.

‡ Lib. I.

sued by such analogy as compares man, his being, and actions (such as we have actually known him to be) with what he may fairly be supposed to have been in those times, although deformed and misrepresented in fables, even truths useful to mankind may be elicited out of them.

There are rules in the science of optics, by which the lines of a picture may be so drawn, as that, although they give every point of that picture, the bearing of each point shall be so distracted, and the *tout-ensemble* be so deformed, as not to retain the least semblance of the original draught; this deformed picture may however, be reformed to its original draught, by being seen in a mirror peculiarly, by the same rules of science, constructed to reflect back these lines, reduced to their proper *traïtes*, and these proportions to their just correspondence. Just so (with allusion to this mathematick fact) I consider the historic fables, the pictures of the early ages of the world. The picture has been deformed in all its *traïtes* and proportions; but if the truly philosophic Antiquary can by analogy, and fair comparison of that Being which man always has been, find out the mode of the deformation, he will be at no loss in applying the scientifick mirror,

rou, by which this picture shall be *tanquam in speculo*, reflected back, reformed in all its out-lines and relations, to all the purposes of useful experience, the only end of real and actual history.

We will next, leaving the *fabulous*, proceed to consider the mode of the philosophic Antiquary's research into that period of history whereof (the materials being supposed to be intire, and the order and series of the facts in some measure preserved) the narrative is supposed to be the actual portrait of the things and times which it represents, and is therefore called and understood to be the *just and true history*. When I consider that he, who writes professedly to give such information of the state and actions of the human life and system as shall enable us to form that knowlege of it, which is experience, should not only tell us what has been done (as chronicles and registers do), but should mark to us how the agent was able to do it, how it was done, and what was the effect: I say, when I consider historical knowlege in this light, yet find that he who writes of ancient times, long passed, knows not often the *how*, and that he who writes of the living times, as they are passing, heeds not the *how*, but goes on

on as of course ; I feel that I want something more to raise my learning up to knowledge. The historian, either totally ignorant of, or living amidst the ordinary movements, and under the constant and mechanick influence of the springs and principles, which, as things of course, operate on the human actions, does no more think it necessary, or even proper, to trace and mark the state, organization, and process of the community whose actions he is describing, than he would think it necessary to give an analytic description of his watch, in order by it to tell you what the hour of the day was ; his office being to relate the operations of the machine, not the composition and resolution of its powers. He supposes the knowledge of this to have been acquired in some other line of learning, or to lead to other purposes, or to be obvious in every course, and open to every eye. While we see palpably the organization of the community, the particular state of its process ; so long as we feel the impulse of the principles by which it is influenced ; and are either actually or scientifically mixed in with the circumstances amidst which it operates ; so far the narrative may be perfectly intelligible : but it may so happen, that the history of the facts may remain,

when

when the principles shall have ceased to operate; when the particular state of wants which called forth those resources, from whence particular powers, acts, and rights, are derived, shall no longer urge their demands; when the manners and customs have died away, and are utterly forgotten: The history then, without that comment, which the living manners and active drama give, shall become useless, and unintelligible. The actions and operations, appearing ungrounded, shall become inapplicable; and the most useful arts and best exerted powers seem a wanton waste of caprice. I dare say every one who reads can here recollect many things, many actions, many operations, which appear so to him, which yet could not have been so. Here then the Antiquary becomes that Interpreter by whom history is rendered intelligible; becomes that Commentator by whom alone it can be conducted to use and practical knowledge. The Antiquary sets before our eyes, and puts into our hands, in a way that the historian does not, every component part and whole frame of the acting system. He makes his reader live as it were in the times, and through the scenes he describes: *Animum in scribendo*

ad

ad præterita retrahere, et veluti antiquum facere magni utique laboris et judicii est *.

The Antiquary will so describe the community, whose acts are the subject of history, in the scite and circumstances of the country which it inhabits, in its mode of possessing, and in its manner of living on it ; he will give a detail of its wants, and of its resources, both in nature and art ; he will so describe the component and acting parts, so mark its organization, its vegetative and animal procession, its growth, its utmost perfect state ; and its decay, its defects, its diseases, and all the accidents which give occasion to the working of its natural or violent decease ; that every spring and movement, every accident, act, and operation, the cause, the reason, the end and effect of all, will be equally known to the reader, as though he was living amidst them, and under their influence. Without this knowledge we may read history, but it will be the story of a creature little known to us. We have all read the Persian, Ægyptian, Grecian, and Roman History ; but will the best versed in these matters satisfy himself that he has any such habile idea

* Bacon de Augm. Lib. II. c. 5.

of either of these people and their system, as above required? will he, when I ask for information, be able to tell precisely what was the state, what the supply and consumption of this state, while their labour was confined solely, or principally, to the earth? why such and such possessions of lands, waters, and things, became necessary to them? how they occupied and maintained them? how the interior springs, and exterior momenta arose and acted under these circumstances? how they were able to put themselves into such form as to act towards objects *ab extra*? how under these forms the distribution of powers and duties amongst the individuals in the communities of Greece, but of Rome more especially, were made, and yet the political liberty of the state, and the personal freedom of the individual, preserved? how citizens of equal rank and liberties, entitled to equal choice in a share of the *civil* government, could (having been either drawn out by lot, or pressed, to bear arms as privates) be continued during long wars, and retained for a series of years under the despotism of the *military Imperium*, consistent with that liberty of the state, and that freedom of the citizen, consistent with the avowed rotation of election to civil offices open to all? how they

they could be thus secluded from their rights and excluded so long from re-entering into their civil order? will any history explain this to me? I know none that does. I look to the learning of the Antiquary for this information, but as yet I know none that gives it. There are many instances in the Roman history of the people and the soldiers revolting against this unequal grievance. To quiet complaints on this head the senate was forced so early as [U. C. 246.] the Etruscan war, to liberate the Plebeians from paying the Portoria and tribute, in consideration of their personal services *. “ The rich, “ who were able to bear this burthen of “ taxes, should pay their contributions in “ this form ; while the people who were “ poor, should be considered as paying “ their share by bringing up children who “ were to serve the state.” This is the only passage which I can recollect, which looks like an explanation of this difficulty: and yet this was only a partial and temporary shifting off the complaint (*blandimenta Plebi per id tempus ab senatu data*), for we find again the Portoria and vestigalia in collection. A pay or subsistence

* Ut divites conferrent, qui oneri ferendo essent, pauperes satis stipendii pendere, si liberos educarent.

Tit. Liv. lib. II. § 9.

given

given to the foldiers was afterwards eſta-
 bliſhed; this and the ſtate of dependency
 to which the people were reduced by their
 debts and general poverty, ſeems to be a
 reaſon of the claim to their perſonal
 ſervice, as private foldiers, being ſub-
 mitted to. The difficulty however of re-
 conciling this military imperium with
 the freedom of the citizen, and the liberty
 of the conſtitution; ſtill preſſes. There are
 many other curious diſquiſitions which
 ariſe in this branch of learning: as, how
 thoſe communities divided into thoſe who
 labour on the earth, into thoſe whoſe
 labour is employed on the produce of the
 earth, thoſe who adminiſter the civil
 powers of the community, thoſe who are
 either permanently or occaſionally ſet apart
 for the defence of the community;
 how, after the community is ſo divided,
 thoſe, who do not produce what can be
 eaten, are fed; how the ſurplus produce
 of labour which can be of no uſe to the
 community can be exchanged for what is
 of uſe; how this leads to commerce; how
 commerce extending the communion, en-
 creases, by its naval adventitious members,
 the power of the ſtate: without ſome
 degree of this information of the com-
 munities and growing ſtates of the ancient
 world, we may read and learn a great
 deal

deal, but shall know very little; we shall continue reading about a creature that we do not understand the nature or constitution of; we shall neither conceive the springs, the means, nor the ends of its actions; we shall neither see the purport of the wars, nor the reasons of the fœderal connexions it may make, nor the grounds on which it stood by means of them. We may travel in history for ages through many regions, but it will be always as in a thick fog. We may see in successive steps the groups of those figures and facts only which are immediately local and temporary; but the *ensemble* of the piece will be hid from us and unintelligible. We must here have recourse to the learned Antiquary; the light of his discoveries must dispel the cloud; when it does so, the prospect will open upon the *mind's eye* in all its extent, in true perspective, and cloathed in all its genuine colours. The objects and figures in the piece will be seen in their proper bearings and proportions; a system as pervading the whole will be seen in the design; the connexion between causes and effects will be seen in the execution; and *history may thus become experimental knowledge.*

If I know the state of the produce of a community, either by grazing, tillage, hunts, fisheries, or mines; and the state of its manufactures as framed upon this produce; the division of the individuals of the community into husbandmen and manufacturers; the respective proportion of these; the surplus labour employed, and the surplus stock of labour created; whether this continues to circulate as a living or is stored as a dead stock; I shall be able to estimate the internal capabilities of that community, its happiness, its wealth, and its power of external exertion. This information is not found collected in any history; and yet the being possessed of it is necessary to a real knowledge of the actions of that political being, whether prince or state, which one is reading of. The Antiquary collecting and combining many of these scattered and neglected facts, which, separate as they lie, are not either relevant or applicable, will give me this information. History is in general only the recital of the brutal part of man's system, his robberies, plunderings, and wars, mixed with some temporary intervals of necessary truce called peace; which lasts no longer than till the power of war

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has

has acquired some fresh strength, or new means of exerting itself again. Two of the principal drifts of true experimental history should be pointed to give us information, and lay, as in a map, before the mind's eye, the *vicissitudines rerum*, and the *fundamenta prudentiæ*: Yet the narrative of history seldom enters into these *minutiæ*. So far from giving the changes and revolutions of things, it does not (generally speaking) give the actual state of them at any one time: instead of pointing out the *fundamenta prudentiæ*, it seldom enters into the rationale. It is employed to invent mysterious reasons for what was mere passion, and to give an air of policy to the violences of man; to paint their operations, to trace their course, or to state the effect, as acts of glory which form the statesman and the hero. It is the pomp and circumstance of action, not the principle of the reasoning part, that is the general object of the historical drama. An analytic history of the progress, growth, expansion, and decay, of the civil community, in whatever external form it exists, can alone explain the *vicissitudines rerum*, or trace the *fundamenta prudentiæ*. The very creature whose actions we view, is, without this knowledge, a creature quite unknown to us: Could I have any idea of man, seeing

only a picture of him as a sprawling child, or in the helpless decrepitude of age? Could I have any idea of the progressive state of his being; of the necessity of attentive nurture to his childhood; of the necessity of support and aid to his old age; if I saw, at one view only, the portrait of his manhood? As of man, so of the human community, thus superficially or partially seen, I should neither see the different wants in the different states of its being, nor have experience of the supplies which should correspond to those wants; nor of the sources which might produce those supplies. If this point of knowledge (I mean *the analytic history of the human community*) be a *Desideratum* in the historic line of learning (as to me it seems to be), what a glorious and extensive field is here open to the learned Antiquary to spatriate in!

The vegetative system of the community (if I may so express myself), the internal living and growing part of its being, may be compared to the roots of a tree, which support the present plant, and are continually, though unseen, extending the means and maintenance of its future expansion in its branches. If the roots are not extended in the earth below, the
 7 branches

branches can never extend their growth above. A surplus and collective stock, created by agriculture and manufactures, can alone give activity of power to numbers of people in any degree: but commerce alone is that vegetative system of the community, that can give a permanent source to this activity: a knowledge then of the commercial movements, operations, and powers of the ancient communities, seems absolutely necessary to any one who would understand the actions of those communities. In order to explain myself, when I refer to the use that this knowledge would be of, I will illustrate these suggestions with an example or two.

Does it not appear unaccounted for, and unaccountable, that after the Grecians had possession of the Trojan port and station; after they had driven the Trojans out of the field, had laid siege to Ilium, and had an army numerous enough to have made a perfect blockade; that the Trojans and all their auxiliaries maintained their supply, and continued in this state of resistance for ten years, without a dearth or famine making any part of the distress which they laboured under. Thucydides, who is our Antiquary here, explains this fact. Giving some prefatory account of

the antiquities of his country, and of the ancient state of it ; he speaks to this very point of the state of the community ; of the nature of the supply ; and of that part of the people whose labour was necessary to produce that supply. The division of the people into husbandmen, and separate manufacturers of the stock of the produce, was not yet made, so that there was neither a superfluous stock of labour, or of hands, which could be spared for war, in such manner as that the supply could be continued and kept up.

There were, he says, men enough in the country ; and though the states sent out above one hundred thousand men, they could (he says) have sent out many more, could they have created a surplus supply for this number, while these hands became thus unproductive of their own supply, being filled with arms and employed in war. Not much more than a third of these, who formed this armament, could be reckoned upon as effective in the lines. One part, he says, was employed on the Chersonesus, to raise and maintain a supply for the army ; another was employed in their shipping, and as marines, to collect supplies by trade, or plunder, as they could. Thus the blockade was not
only

only incompleat, but the Grecians were at times so weakened with these detachments, as well as by death and sickness, that the Trojans were able to repress them back within their lines, and even to besiege them there, in their turn.

That the Ægyptians, on the other hand, had in the most early periods a superfluous stock of supply equal to the support of multitudes of unproductive hands, the erection of their pyramids, obelisks, and other great works of architecture, is a proof: but it is a melancholy proof at the same time of the perversion of the productive powers of man in society, when we see so much labour, which, by a right turn of the wealth and industrious enterprize of a populous community might have produced and advanced the state of happiness to mankind, thrown away, and wasted in works which now remain only monuments of the defective state of their political œconomy. However (taking things as they clearly were and must be) these monuments bear everlasting testimony to the goodness of the hearts of those ministers, or those kings, who did thus employ the superfluous idle hands, and superabundant stock of supply, which the fertility of the country gave, in works

of harmless parade and vanity : instead of being actuated by the common ardent ambition of tyrants to employ them in the destruction of the human species.

Let the student in history consider again, in a different view of things, the nature of the state of the Hebrews, prior to the time of David and Solomon ; and the growing extent of the wealth and power of that state, when (under the government of those enterprizing princes) they got possession of the Red Sea ; actuated its navigation ; and profited of the circuitous commerce of the Arabian and Persian Gulfs, and of Indian Seas. Let him view them emerging, as it were by magick, from an inconsiderable inland state, to a commercial naval and powerful empire ; and how again upon the loss of this they sunk as suddenly again to their original littleness.

When, in another instance, he sees how a collection of merchants (one can scarce call that community a nation, or its civil corporation, a state, I mean the Phœnicians), set down on the line of intercourse between the great trade of the east and that of the west, and actuating the movements of this combined commerce,

soon

soon acquired an ascendancy in and took the lead of the interests and powers of the then great world, he will no longer wonder at the effect, he may derive knowledge from experience in the cause. He will see the same effect connected with the same cause in the establishment of the power of the Hanseatic league in Europe. If considering this and pursuing this line of research, and examining it by this train of reasoning, the learned Antiquary will review the plan, and system of measures, which formed the conduct of Alexander, truly called the Great, the use and importance of this information, in this branch of learning, will appear still more evident.

It will be seen that this great prince and his council perfectly understood the operations and effects of this system, as it lay in nature; as it was interwoven into the affairs of man; and as it nurtured, animated, and actuated, the interests and powers of states; as also how this might be wrought to conspire to the establishment of an universal empire of the world. His knowledge of the real weakness which there was in the imposing grandeur of those states that he acted against, led him to the conquest of them. His conquests led to assured knowledge on experience of the

the

the powers whereon these states should have been founded. His progress, successful as it must be, being guided by system, founded in actual truth, opened to him every step he took, and every day which rose, more and more extended views of the expanded intercourse of commerce as it actually moved and acted; and of the universal communion to which it was capable of being extended; all conspiring to *one great Lead*, which, while it was supplied by the *commerce*, might act with the *naval power* of the whole world.

This great prince was *the first statesman* who from system in knowlege, founded on actual experience of the movements and transactions of men, in the various lines of trade, *combined the interests and powers of commerce with the operations of polity*, so as by the true attractive spirit of communion, as it acts in nature, to form that organised *imperium*, whence command and government would, through the laws of nature, derive upon all the communities who became parts of this combination, and who moved within the sphere of this attraction. Having united the naval power of Greece, raised and maintained by the ascendent commerce of the Euxine and Ægean Seas; he soon
drew

drew the naval interests of the Ionians within the orbit of his revolving powers. And these combined did, as they must in the natural course of things, create a center to which the commerce of Tyre must become secondary and subordinate. In this natural progress of his system, Tyre must, as it did, fall under his dominion. The merchants of Tyre had actuated and commanded, what the statesmen of Persia should have done as an essential part of their political system, the commerce of the Indies. This coming under the command of Alexander, Persia became nothing in the scale against the ascendent and predominant power of this great statesman and warrior. The steps which led to, and effected this conquest, did, as in a course of experiments, mark out to his genius a systematic knowledge of the basis whereon this Persian empire should have been set and would have stood, and whereon a great empire might be formed and founded.

His fixing on the spot, whereon to build Alexandria, as the center of commercial system, and making that, perhaps, the only spot on the globe to which all the three great departments of the commerce of the ancient world could have mutual,

com-

commercial, and even naval communication; to which the directions of all their reciprocal lines of movement might concenter; and in which all their interwoven interests might combine: His fixing upon this spot; and forming and establishing this glorious system of commerce thereon; and uniting this system to the constitution of his *Imperium*, had this effect in all his measures, that while he was the actuating soul, the circulation of commerce (like the circulation of the blood in man) was the life of the whole. The forming such a system of communion as the basis, and the building his superstructure of government thereon; distinguishes this great prince from all other heroes the conquerors, in order to be the tyrants of men: while instead of being the mere conqueror, acting with the brutal force of man, to destruction; He (I had almost said) like a divinity actuated, and acted with, the powers of nature to the establishment of nature's system in communion. It was on this system, and by a linked progression of measures founded thereon, that he made such inquisition and search into all the sources and channels of the trade of the Indian seas and regions: that upon the result of his discoveries he established that great *Eastern branch of the commerce* of the world; and

and that he interwove and combined this at one center of attraction with the *trade of the north*. This center to which all conspired; and from which power thus collected diverged to all parts of the commercial hemisphere was Alexandria in Ægypt. Those extensive plans were, however, but links of the chain, but parts of his general system. While by the entrepôts, which he created and fixed between Ægypt and the East; by the trading settlements which he established in the East, under the protection of his arms; by the factories which he advanced in every remote source under the cover of his outposts; while by these measures this great machine was getting into motion and beginning to act; He was forming the plan of drawing the late Tyrian and remaining Carthaginian *Commerce of the West* into the same vortex.

Having put his measures respecting commerce and the naval power into execution, he designed, when the operations of these measures had brought forward and prepared events for it, the invasion of Carthage and its settlements. Acting by an ascendent fortune, and become predominant, he must in all human probability have succeeded.

Such

Such were his assured steps, that this trade also, connected at the root, deriving its nouriture from the same sources, extending its branches interwoven over the same regions, moving within the same circulation, must have come within the sphere of the same attraction; must gravitate to and revolve about the same center; and become thus a part within the universal system or a very subordinate and secondary system of itself *ab extra*. In either case, the trade of the Carthaginians must have been impoverished, their naval power weakened and reduced, and the dominion itself succumb to *the universal Imperium of this GREAT STATESMAN PRINCE. Sed Diis aliter visum.* He died; and the soul, which was the center of vitality, and the spring of action to this system, departing, the unity of the system was broken; separation, like another confusion of Babel reversed the whole.

Looking then up to this great commercial triangular pyramid, as it would have stood on a base, one point of which projected beyond the Straights of the Mediterranean on the *west*, while another advanced to the almost bounds of the
Euxine

Euxine and Paulus Mæotis on the *north*, and the third to the remotest regions of India east; looking up to *this great colossal system of empire* thus founded on commerce; and seeing what the city of Rome was at that time, fighting for the very scite of its future empire, on its own *narrow world* Italy, not only surrounded but hemmed in by warlike, jealous, and hostile neighbours on all sides; one may, without incurring much the imputation of presumption, decide upon the speculation which Titus Livius, lib. IX. § 17. institutes and discusses on this curious question — *Quinam eventus Romanis rebus, si cum Alexandro bellatum foret, futurus erit.* The historian's reasons are those of a good citizen, and an ingenious advocate in the case: but his speculation does not seem to have comprehended the whole case; and his reasons seem to have reversed the course of the measures which he was examining, speaking of the measures of monarchs like Alexander, he says, *Domini rerum temporumque trahant consiliis cuncta, non sequuntur*; whereas the very spirit of the measures and system, planned and pursued by this great prince, were directly the reverse*: He did not, as mere Quixote ad-

* Se, quæ concilia magis res dunt hominibus, quam homines rebus, ea ante tempus præmatura, non præcepturum.

Tit. Liv. lib. 21. § 38.

ventureres in politicks do, labour to make occasions; but *as all truly great Geniuses do*, seize and profit of times and occasions: He did not by force attempt to command nature, but by courage and wisdom to follow her to execute her commands. Had he lived to have put in execution those measures which he had in contemplation; and had the train of those measures once brought him into the field with Rome; the system of that state, then in its infancy, must have succumbed to the power of Nature, and the spirit of Alexander, which combined were in the ascendent.

But to return. Having mentioned what appears to me to have been begun, or to have been in part done, and what is still wanting of research into the great northern and western courses of the ancient commercial world: It cannot but occur to the Society and to the Reader of this paper, how much is also wanting of information in that extensive multifarious and rich commerce of the ancient East Indies. Monsieur de Huet has entered into the disquisition of this branch more in detail and with more precision than in other parts, and, as his extensive reading and great ingenuity enabled him, has gone
great

great lengths in this inquiry; but there are many materials which afford still further information; and much remains to be as yet explained. This inquiry has much to tempt the curiosity of the learned Antiquary, and much to exercise his ingenuity. It seems to me, that the Antiquary, who can alone undertake this research with success, and to effect, must be some one who is perfect master of the eastern languages; who is, from a course of experience, acquainted with those countries, those people, their manners and habits; and finally one who has been a practical merchant, or connected with such. There are many ingenious, learned, scientific, mercantile men, who live, or have lived in, and had experience of, these regions; and it is from the learning and experience of such alone, that the world may expect knowledge on this subject.

Closing here our observations on the nature of commerce, as the source of wealth and power to the community, we are naturally led to consider those ducts and channels, derived through which a certain portion of the produce of this source is, as it were, secreted from the general circulation, and converted into revenue of the state.

The ordinary students in history read, as of matters of course, of the wars of nations, and of the conquests of the hero of the story; of the marches and multitudes of the armies, and of the activity of the general; with as much scope of imagination, as the pen can with ease multiply numbers, or annihilate space: But if the student by reading history means to acquire a real knowledge, founded in experience and applicable to practice, and not to collect a set of crude and inapplicable ideas merely as a supply to the shining in conversation; he should direct his researches into the actual state of the sources which create and maintain this power of acting; he should know the nature of the supply, and the form and extent of the revenues, of the political Being whose actions he is studying. Very few writers have pointed out, and fewer readers considered, those previous requisites. They find no occasion for, and so no difficulty in the matter of supply; and yet it is an observation not more shrewdly conceived than surely grounded which Sancho Pancho makes, that he was always struck with admiration of the vigour, activity, and adventuring spirit of the heroes, yet following them carefully in their
marches

matches and excursions, as he never could find where they dined or supped, or took their rest, he did always suppose that these superior Beings had no occasion for these necessaries, without which men of the ordinary race could not get on : under this solution he could easily give his faith and assent to all the marvellous, on which otherwise he should have entertained some small doubt. Men must eat, and food is not to be had without the means of collecting it, as Cicero says in a letter to Atticus *, *Res frumentaria nullo modo administrari sine vectigalibus potest* ; and in a letter to Brutus observes †, *Maximus autem (nisi me forte fallit) in republica nodus est inopia rei pecuniariæ* ; and we find the Scipios in the career of their victories in Spain, writing to the Senate ‡, “ *Pecuniam in stipendium vestimenta- que et frumentum exercitui, et sociis navalibus omnia, deesse ; ab Roma mittendam esse nec aliter aut exercitum aut provinciam retineri posse.*” Without some account therefore of the Revenues of the states whose actions we read of in ancient history, we shall be very little able to judge of the competency of the

* Epist. ad Att. Lib. IX. Ep. IX.

† Ep. VIII.

‡ Tit. Liv. lib. XXIII. § 48.

state to the measures represented ; or of the means proportioned to the ends proposed by that actor whose history we are reading.

We can never form any judgement of the reasons of state in the conduct of that government, nor be able to distinguish the probable from the improbable, the possible from the impossible, the competent from the incompetent ; we shall never be able to compare the combination of wealth and power in one nation, with that of another ; nor ever to form any judgement but from event, nor to know the real nature of that event neither.

Here the learning of the Antiquary must lend his aid to knowledge : his erudition collects, and his knowledge afforts, the many scattered particulars which lie referred to passantly in the various histories of Antiquity, and form for the student such a system, as may enable him to become in great measure cognisant of these necessary matters. There has been much industry and profound learning employed by the Antiquaries on this subject ; and yet, in all which has been collected and composed in these matters of finance, a certain want of official experience

rience in the detail of the collection, and in the application of the revenue to the service in practice, has occasioned an unavoidable defect, which will only be perceived when it comes to be applied to operation in the effect; and will therefore only be perceived by those who read, and study what they read, for the purpose of collecting experience: then is it that we find the difference between the blooms of learning, and that fruit-bearing science which must have a source of knowledge of principles at the root.

In order to explain and illustrate what I think is here required, I will, by way of instance, attempt to give an account, from what may be picked out of the Roman authors, of the nature of the revenues and treasury business of the Roman State.

The *establishment of the civil government* in the early periods of the Roman people, under the kings as well as under the consuls, required very little expence: here personal service was the principal tax, which power and honor fully recompensed. When the *military establishment*, as the conduct of the wars grew every day more expensive, required the support of a revenue; the Plebeians complained of the

inequality and injustice arising from the demand made upon them for taxes, while the demand upon their personal service in the army, taking from them those means of labour which was their support, rendered them incapable of paying those taxes: they were accordingly excused from paying the tribute on this ground, “ *Pau-*
“ *peres satis stipendii pendere si liberos edu-*
“ *carent.*” The expences, however, of a growing state, involved in various wars, and various foederal negotiations and connections, was obliged to maintain various ordinary establishments, and repeatedly incurred various extraordinary expences. To a state, in these circumstances, a permanent and regular revenue became necessary, and taxes were therefore necessarily imposed and levied. These, in the times of monarchy, were imposed by the kings, and in the times of the Republick by the Cōsuls (perhaps in senate) by the Censors, or the Dictators; as the case stood and required. I have ventured to say this, although I know that it is a point by no means settled amongst the Antiquaries, whether it was imposed by the supream magistrate alone, or by him in senate, or whether it originated in a Senatus-consultum, or in a Plebiscitum, or whether it was originated by the Senate and enacted
‘ jussu

‘ juffu populi.’ I take my ground for this assertion from this certain fact; that the kings had the power of imposing taxes, and on the Revolution, at the expulſion of the kings, Livy informs us *, *Libertatis autem originem inde magis, quia annum imperium conſulare factum eſt, quam quod diminutum quicquam ſit ex regia po-teſtate.* This ground can be made good by various inſtances which might be adduced; but with which, as I am not here writing expreſſly on the ſubject of the Roman finances, I will not trouble the ſociety, nor the reader; I only ſuggeſt what appears to me wanting, and what I think might be explained.

The ſpirit and reaſoning, by which theſe taxes were laid, took their courſe in the two following lines. The *Tributum* was impoſed upon property, real and perſonal, or faculty, in proportion as rated in the *Cenſus*.

The *Vetigalia*, of which the *Portoria* were the chief claſs, were impoſed on the produce of the lands, goods, and every article of ſale, in their paſſage to and in

* T. Liv. II. § 25.

their sale at market; these were the * *vicesima*, or five per centum, and the * *centesima*, or one per centum; this kind of excise at different periods, and on various occasions, were extended to numberless and † nameless articles.

The necessity of imposing and collecting from the citizens of Rome the † *Tributum*, was superseded by the deposit of treasure placed at the bank upon the conquest of Macedonia: the rest continued as branches of the revenue, collected as the *vestigal domesticum*.

* These branches of the excise, not only existed before the regulations made in them by Augustus, but were paid Italy, and were a *vestigal domesticum*, as Cicero calls them. It seems to me therefore, that Mr. Gibbon is mistaken when he supposes that Augustus first imposed them on Roman Citizens, who had been exempted from any kind of contribution above a century and a half. Augustus made many regulations in them, and several extensions of them.

† I so describe them from the nasty and infamous nature of them.

‡ Cicero in his *Offices*, Lib. II. § 22. mentions this of the *Tributum*. But when Mr. Gibbon says, chap. VI. "that the Roman people was for ever delivered from the weight of *taxes*," he announces as of the genus, what Cicero only said of that species the *Tributum*. When the mutinous spirit of the people, at the crisis of the breaking up of the republick, called for release from the *portoria*, and to have a division of the *Ager Campanus*, Cicero, writing a long letter to Atticus on the subject (Lib. II. Ep. 16) says, *Portorii Italię sublatis, agro campano diviso, quod vestigal superest domesticum præter vicesima?*

Besides

Besides these, the Roman government derived a revenue from a landed property, which it held as *the demesnes of the state*. As the Romans conquered the nations of Italy, and of the world, they generally reserved some of the *arable and pasture, and other cultivated lands*, to be held by the government as the landed estate of the Republick, the produce or profits of which were the publick revenue. The government* let them to farmers for a certain stipulated rent; when so let, they were called *stipendarii*: It let the arable to Aratores, tillage husbandmen, and received *tithes* † of the produce in kind, or in such manner and by such composition as the Aratores could make with the Tithingmen or Decumani. These lands were called *Agri Decumani*. Oil and wine also, as the produce of the oliveyard and vineyard, paid a *vectigal* in a given proportion. I doubt whether I may call it a tithe, as I find that hort-yards and gardens paid but a *fifth*. There was also even in the *Decunæ* some distinction made between the great

* The doing this was called, the *Locatio Prædiorum Rusticorum*. Liv. Lib. XLV. § 18.

† Tithes were of old a financial establishment of Sicily, under its own kings, and I believe of many other states also, prior to the adoption of them by the Romans, as one of their ways and means,

and

and small corn or grain; the government also, to secure its supplies in the *refrumentaria*, made further conditions of pre-emption at an assized price.

The revenue of the *Pascua*, the pasture land, was raised by taking in cattle to graze, adjoisted at a certain *Locatio*, or contract rate per head, for the grazing. The lists taken by the publicani of the number of cattle, &c. adjoisted by the graziers, the pastores, was called the *Scriptura*, whence this branch of revenue took this name.

These were the modes of raising the ordinary revenue from the landed demesnes of the state; but the government, in cases of emergent difficulty, had extraordinary ways and means of raising money upon the capital by sale of them, with equity of redemption, when the government could repay the money.

The revenues * raised upon the provinces in general was a *vectigal certum impositum quod stipendarium dicitur*; on the contrary, *omnis ager Siciliae civitatum decumanus est*, with the exception of five or

* Cicero in Verrem. Actio 2da. lib. III. § 6.

seven cities, which were free and had immunity from the tithes.

The mines were another source and branch of revenue; the government kept these in their own hands, and worked them by their slaves and convicted criminals, under the inspection of their own officers; these were called the *Metalla*.

The collection of these ordinary branches of the revenue were generally farmed out to companies of bankers, to *Societates*, or *Socii Scripturæ*, &c. who agreed for them at a stipulated *Locatio*, or contract price, by which means the income revenue became constant and uniform. These *societates*, or companies of bankers, were also of great use to the government, by advancing money on loan in cases of emergency, as will be seen.

Besides the ordinary branches of revenue by the *Tributum*, the *Vestigalia*, and the *Metalla*, the government in cases of emergency did sometimes call on the patriotism of the people to contribute to the necessities of the state, in proportion to their love for their country, and to their abilities in assisting it; this, which we should name a *Benevolence*, was called *Tributum*

Tributum Temerarium, quando *populus in ærarium, quod habuit, detulit*; a curious precedent of this in the second Punic war may be read in Tit. Liv. Lib. XXVI. § 36. and in Florus, Lib. IV. cap. 6. § 24, 25.

Another extraordinary method of raising the current supply was by loan on the public credit, borrowed on such conditions as the government could make at the time with the *Societates*, or companies of farmers general. This required an act of the senate. The following is the precedent in V. C. 537.* ‘ At the end of summer, the
 ‘ Scipios wrote an account of their suc-
 ‘ cesses in Spain; but added, that money
 ‘ for the pay, cloathing, and supplies of
 ‘ the army, was wanting, and for the
 ‘ social fleets every thing. As to the pay,
 ‘ they would manage to arrange that upon
 ‘ the spot, but if money was not sent
 ‘ from Rome to defray the other charges,
 ‘ neither the army nor the province could
 ‘ be retained. These letters being read in
 ‘ the senate, there was not one of the
 ‘ whole body who did not allow that
 ‘ what was stated was true, and that what
 ‘ was required was just: but, then con-
 ‘ sidering on one hand what great supplies

* Tit. Liv. Lib. XXIII. § 48, 49.

‘ the

‘ the Macedonian war, should it come
‘ forward, would call for; and on the
‘ other, the deficiencies of the treasury;’
the senate came to this resolution, “ That
“ unless the government could raise the
“ supplies on credit, they could not be
“ raised on the current revenues of the
“ state.”

“ That therefore Fulvius should go to
“ the public assembly of the people, and
“ state to them the public necessities, and
“ exhort those who had made their for-
“ tunes by contracts and the public farms,
“ that they should advance by loan to
“ the government, for a time, some part
“ of these fortunes which they had made
“ under its administration, which monies
“ so advanced should be repaid to them
“ out of the first surplus balances which
“ were deposited in the treasury.”

‘ The prætor fixed a day for making
‘ this contract, and on the day so fixed
‘ three companies, of twenty-one each,
‘ offered the loan on two conditions;
‘ 1st. That they should be exempt from
‘ military service. 2d. That the things
‘ they lent should be insured by the go-
‘ vernment against the danger of the seas
‘ and of the enemy.

‘ On these conditions the contract was
 ‘ made, and the public service was car-
 ‘ ried on by the monies of private ci-
 ‘ tizens, on the ground of public credit,
 ‘ just as well as though the treasury had
 ‘ been in full efficiency.’

The BANK *, which was soon after established at the end of the Macedonian war, for ever after, while it remained sacred, superseded not only that branch of the ordinary revenue raised on the citizens called the *TRIBUTUM*, but also the necessity of borrowing and funding. After the seizure of the treasure of the Bank by Julius Cæsar, this necessity returned again, and in the time of Claudius one reads of something of the like kind.

It appears that the spoils of the Macedonian conquest were the first *deposit* on which the Bank was established. This Bank, thus once established, became A BANK OF DEPOSIT. After this, all the moveable wealth of every country, as they conquered it, was deposited as sacred to

* Cicero de Officiis, Lib. II. § 22. *Omni Macedonum gaza, quæ fuit maxima, potitus est Paulus: tantum in ærarium pecunia invexit, ut unius imperatoris præda finem attulit Tributorum.*

the public use, in the bank of the *Ærarium*, as were all surpluses of the taxes. Lucan in his *Pharsalia*, Lib. III. gives in a few verses the heads of those several articles of deposit :

Romani census populi, quem Punica bella
 Quem dederat Perses, quem victi præda
 Philippi,

Quod tibi, Roma, fugâ Pyrrhus trepidante
 reliquit.

Quod te Fabricus regi non vendidit auro,
 * Quicquid parcorum mores servastis avo-
 rum,

Quod dites Asiæ populi misere tributum,
 Victoriq; dedit Minoia creta Metello,
 Quod Cato longinqua vexit super æquora
 Cypro

Tunc Orientis opes, captorumq; ultiaæ
 regum

Quæ Pompeianis prælata est gaza triumphis
 Egeritur.

The officers at the head of the administration of this branch of the revenue, were the *Quæstors*, for a time the *Prætors*, and at some periods the *Ædiles*. The general receipt into the *Ærarium* by actual cash, by bullion, or by the *rationes* of the provincial quæstors; the coinage; the

* These are the surpluses which I refer to.

issue to the service by cash, or by assignment, in payment, or by imprest upon account; and the keeping of the accounts of the whole; were of their department. Whether this department in the whole, or in part, and in what parts, was conducted by a concurrent jurisdiction with (it was certainly under the control of) the senate, is not a matter decided, at least as far as my information goes: there are clearly some matters, and were some times, in which the senate interposed its authority. The vote of the senate in the case of the loan above-mentioned, and the settlement of the stipendium of Macedonia, the arrangements made in the collection of the Vectigalia and the Tributum, by a resolve of the senate, is another. It seems that this might have been left to the executive officers; “ *tamen in senatu quoque* “ *agitata est summa consiliorum ut inchoata* “ *omnia legati ab domo ferre ad imperatores* “ *possint* *.”

The actual collection of these revenues were by the hands of the *Publicani*, or of the Farmers-general in right of their *locationes* or contracts; and the distribution

* Vide T. Livium. Lib. XLV. § 18. The detail of these arrangements are worthy the attention of the learned Antiquary.

by the hands of deputy pay-masters, civil and military.

By the account which I have here given of the revenues and finances of Rome (defective as this may be) will be seen how much still less is known of this life-blood of other states. I could have drawn out this matter into a greater detail of particulars, and have composed these particulars into a more full and perfect description of this point of antiquity, had I meant here to have written an express treatise on this subject: what I have done is only to give one example of the doctrine I laid down; and to suggest to the Antiquary, how much still remains to be done in this line of research, as it concerns the history of every state and nation which forms any of these dramatis personæ of ancient history. When we come to those periods which form the beginnings of the modern history, the necessity of an examination into and a knowledge of the state and nature of the supply of those communities, who, like succeeding waves, made that inundation which deluged the old world, will appear still clearer; as without such knowledge every part of that period of history is inexplicable and incredible.

This account of the system of the Roman revenue explains the encreasing faculty and capacities of that state, fore-running its exertions, in such manner as rendered it competent to all the enterprises that it engaged in.

The nature of this system, so working at the root, as to become a source to real greatness and amplitude of state, when united by a pervading and ascendant spirit, points out at the same time how liable the republick was to separation of parts and dissolution of system, when the loss of manners, the fever of faction, or the gangreen of corruption, once seized the people, and a defect of vital union took place in the government.

At the same time also that this account of the *Bank of Deposite*, which is here given, shows in reasoning and in fact the inexhaustible resources of the republick, it explains the means by which Julius Cæsar was enabled to carry forward his plans of war and government, when he took possession of it. He had, as dictator, an ostensible right to the custody and command of this, and under pretext of this
ostea-

ostensible, he by force of arms seized it, and used it.

Further ; from this state of the financial system may be seen how the power of the Patricians as consuls, prætors, censors, and dictators, and of the senate, was founded on real influence.

And from the detail of the landed branches of this revenue, the motives both real and pretended, both constitutional and factious, which urged the quarrels between the Patricians and the people on the subject of the Agrarian laws, may be explained.

From the nature of that branch of revenue, the *tythes*, which arose from the *agri decumani*; and by an inquiry how this branch was transferred to the Christian Church on its political establishment, may be discovered, I should guess, the true origin of tythes, as they in fact came to the church, which will also explain at the same time, the reason why there were no tythes in Italy: the lands there were held by a different tenure.

These are some of the uses of this branch of learning; but every day's ex-

perience in reading would present more than memory will thus suggest.

As thus of the *sources* of power in the state, much yet is wanting to an explicit practical knowledge, applicable to facts and events, of the *actual power* in the operations of the military establishment as a body. I am here speaking in general, not of any particular state.

Repeated accounts are given in ancient history of the naval power of various nations; and of the successive dominion which these nations held over the sea. We read of their trading voyages, and of their naval enterprizes and wars: many treatises have been written on the nature of their shipping; but as the writers, however learned in collecting, and accurate and ingenious in explaining, the quotations which passantly mention these matters, as when I mention professor Scheffer, no one will doubt; yet not having been conversant by practice, or experienced in voyages at sea, in the effects of winds and waves, and in the *manœuvres* and working of a vessel either by sails or oars, their accounts have been such as are inapplicable either to the composition or operations of naval mechanicks. Notwithstanding all that

that has been written on the subject of *their ships of war, of their BIREMES, and TRIREMES*, the learning has remained inapplicable, and knowledge of the subject a *desideratum*, until general MELVILLE applied his extensive and very accurate learning, in the line of practical analysis, to the instituting an experiment of the fact. The model in large, which, as an exemplar, he very obligingly showed to me, together with some of our society, was so adapted to the art of rowing, and to the producing the effect consistent with the power of man; was so guarded in the manner of securing the oars, against any accident which might arrive by the power of the winds and waves, or be adduced by the attacks of an enemy; and was withal so simple (as all things which are meant for use at sea must be), and finally so exactly similar, in the frame and construction of the rowing-gallery, to the models which are to be seen in medals and basso relievo's; that one may venture to say, that whenever he shall please to communicate and publish to the world his discoveries on this subject, they will come forward with such clear demonstration that the subject-matter will be no longer a puzzle nor the knowledge of it a *desideratum*.

Having, since I wrote what is above, seen General Melvill, and acquainted him of the liberty I had taken in mentioning his *discovery* of the true construction of the *row-gallery* of the ancient *triremes*, *quadriremes*, and *quinquaremes*, &c. and of the manner of posting the rowers, and the mode of rowing the vessel ; and expressing a hope that he would some time or other communicate to the learned world what would so much enlighten it on this subject ; he very politely, and with that liberality of sentiment which all men of real learning and science have, answered, he would so communicate it, and that this treatise of mine should be the conveyance of its first publication. He sent me, what he calls, A Narrative of his investigations and discoveries on this subject, that I might insert it in this treatise. But as the course of this work goes, in the body of it, only to suggestions of *desiderata* ; and of the mode by which such subjects in which these *desiderata* still remain may be investigated, and not to what has been investigated and discovered ; I have placed this very learned and scientifick investigation, with the very interesting discovery, which arose from it, in the Appendix N^o III. as a Memoire, which by its discovery

covery supplies the *Desideratum* in that branch of antiquities which this treatise had pointed out.

The General's idea, as I conceive it, is, that a *side-gallery*, for the rowers, was built out from the sides of the galley between the waist and the water-line, projecting with its under side in an angle of 45 degrees to a breadth that would admit of two, three, four, five, or more rowers, to sit so obliquely, in an ascending diagonal line behind each other, that each rower should be able to work his oar a little to the left in the larboard gallery, and a little to the right in the starboard gallery, of the oar of the rower who sat immediately below and before him.

By this construction of the *gallery*, by this arrangement of the benches, by this posting of the rowers, and this position of the oars port-holes, every oar descended from its port to the water in the same angle, and all the oars of course would work parallel to each other, without any strain upon one more than another, and with much less strain on any than is experienced by the modern way of rowing, from the circumstances of the oars thus being suspended in part at the ports; although the oars of the upper bench would

be somewhat longer than those below (and that but a little so), yet very little would be added to the weight of them : by this construction of the gallery, by this position of the oar-ports, and by this direction of the oars in rowing, the oars would project very little, if any thing, beyond the projection of the gallery, and that projection, even in a quinqueremis, need not be more than seven feet and a half. From this account of the position and direction of the oars, it may be seen, that when they were laid with the feather horizontally close back up to the under side of the gallery, they would avoid the strokes of the waves, and were defended by the gallery from any attack that the enemy might meditate against them. But I beg to refer the Society and the Reader to the General's own narrative, where he will find every thing exactly, minutely, and fully explained, from the original investigation up to the first discovery.

That peculiar species of cavalry, THE MILITARY CHARIOT, was another method, which the Antients, especially the nations in the east, had of applying force in war. Without a distinct knowledge of this machine, of the method of harnessing the horses to it, of the manner in which
 4 the

the warrours rode and acted in them, and of the application of this equipage to their exercife in their courfes, and to their actual exertions and evolutions in military action in the field, all the accounts of, or reference to, either the one or the other must be mere confufion and inexplicable. Many years ago, I drew up for my own ufe, in my ftudies, an explanation of this matter; I gave a copy of it to my friend Mr. BERENGER, to publish in his Treatife on Horfemanfhip *, and it was printed in that work. I have revifed the original and made fome additions to it, and now give it here as N° IV. in the Appendix. This containing, as the writer of this paper has been made to believe, a diftinct and compleat account of this piece of Antiquity; I fhall enter here no further on this fubject, but beg to refer the Society and the Reader to that Treatife.

I have faid nothing in this my examination of the line, in which I think the

* The History and Art of Horfemanfhip, by R. Berenger, efq; Gentleman of the Horfe to George III. king of Great Britain. London, printed for Davies and Cadell, 1771.

A work wherein the Author has combined an art in which he excells, with fo much erudition, and classic knowledge, in which he is eminent, that cannot but adminifter pleafure, information, and ufe, to the lovers of that noble art in particular, and to learned men in general.

study of Antiquities should be directed, as to the ART OF CHRONOLOGY*, or, *the Method of classing Facts according to Series and Periods*, under which, in the later times of ancient history, the memorials of Events were supposed to be, more or less, accurately recorded. It hath always appeared to me that there never was much care taken, or any actual precision observed, in marking the times of events (even in the course of their arising and passing), according to any of those notices of the concomitant phænomena of the heavens, by which time itself is measured. I have always found that the defective state of the astronomy of the Ancients has been an insuperable bar to historic learning, when it hath attempted to trace back the series of ancient facts to their true periods. Several learned Antiquaries have endeavoured to supply this *desideratum* in our learning; but those who know the most of it, know best its uncertainty and deficiency. My conviction of the uncertainty of chronology has wrought my mind to very great indifference in distinguishing between the facts of those periods called *Historick*, and those called *Mythick*.

* Chronologiæ genus *artem* statuimus non scientiam; scientia finis est chronologiæ idcirco genus esse, nequit.

Beveridg. Chron.

Without being concerned what the real names of the persons were, or who they were, who formed the *dramatis personæ*: without much caring what were the periods of the drama; I can study the character, operation, and effect of it, to all the purposes of experience and use, in the *mythick* full as well as in the *historick* narrative; and I verily believe, that there is often as true a representation of the general state in the *Mythos* as in the history, which pretends to give the particular narrative of facts. The only difference lies here, that where the persons and actions of the *historick* period are classed under series, having reference to epochas, presupposed to have a fixed period, and keeping a kind of *chronologick* order, the history so classed under chronology, becomes a *topical museum* to my memory; and a kind of chart to my course in reasoning on them. This is the difference and no other that the astronomer makes, to aid his memory and reasoning, between the stars which are classed into constellations, and the unclassed stars.

To explain what is here assumed, I will give an instance in fact of this matter which this adduced simile has brought to my memory.

When

When the Ægyptians first formed the map, or picture-description of the celestial sphere, it was done by classing the fixed stars into certain groups, called constellations ; and then circumscribing these so grouped within a line including that group, they drew the contour of this line so as to form some imaginary picture of some person, instrument, animal, machine, &c. according to the custom of picture-writing in Ægypt, Arabia, Æthiopia, and Chaldea. One group or constellation of stars suggested to the imagination of the astronomy-painter the idea of a ship, to which the first designer, or some future copyists, gave the name Argo, or Ark ; within the contour of this picture of the ship, many bright stars were included, to these stars, he, or others after him, gave (in memory of their labours and merits) the names of the several great navigators or leaders of colonies then remembered and renowned in the world. One may suppose, that some Grecian having seen this picture, and having learnt the stories of the voyages and adventures of each of these canonized navigators, and finding all, as it were, embarked on board this one ship, made out, or perhaps had it so explained to him, a poetic history of the whole,

whole, as compris'd in one common joint voyage. After all the perplexities about the chronology, geography, and astronomy, of his fancied expedition, which according to the common account must necessarily be inextricable, I cannot but feel satisfied, that this conjecture of mine suggests a natural account of it. Although, however, this is not an actually historick fact, although it neither is nor can be class'd according to any one period, or any series of times; yet I can pick out of it as much information of the nature and history of the navigation, commerce, and settlements of the ancients referred to in it, separating the facts, and giving each to its proper actor, just as if this Argo was a compilation and collection (like Purchase's Pilgrimages, or Dr. Campbell's Lives of our Admirals) of the voyages and adventures of each individual navigator; just as if it gave an actual and true narrative. Although the expedition itself cannot be true, as related; yet, generally speaking, the particular adventures mentioned in it, if referred each to the individual who performed them, are so: and from the traces to be found (as Strabo says, in his 11th book, pages 21. 45. and elsewhere) in different parts of the world of these adventures, they may fairly be said to be facts. From this picture-history,

or

or fable, thus understood, many very curious *traites* of the navigation, and even inland commerce of the ancients, may be elicited and drawn to light.

I cannot but think that many of the facts and things recorded in the picture-writing, and the fables of Mythic history, if considered in this view of classed and constellated memoirs of the general acts of the race of men in their general operations, and not as actual narratives of arranged chronology, might be explained, as forming a history little short in point of use to those narratives in the early periods of history, which though considered as classed in chronological order for method sake, are not yet to be depended upon as classed in the actual period and series of true time.

I do not say this in discredit of the use of chronology; on the contrary, I think that a certain degree of dependence on its authority even in the earliest periods may be formed: but I wish by the comparison of the little difference that there is between the chronology of the classed traditions of the most early historic, and of the picture records of the mythic, to suggest how useful a work it might be to learning,

learning, and how far from impracticable it is, to unveil the picture records of their fable, and to translate them into *historic representations of the general operations of Man* in his business of this world.

The most truly learned and grave writers amongst the ancients, understood the mythic history to be classed representations of the general state and actions of man, copied (as Plato says) from the *metaphoric* language, in which the traditions were transmitted, into picture-writing and fables. I find myself supported in this notion by a man of great learning and real knowledge, and I assume authority from this support, I mean Mr. WISE. He is not only of this opinion, but I find since the first writing of this, from an ingenious work * of his, which was recommended to me, that he had actually entered upon the research with great success, and to every use and effect of the chronologic classing of those histories which my most sanguine wishes went to. If, with the great learning which he possessed, he had found leisure to follow those rays of light of which he hath just shown a gleam, he would have dispelled from false learning

* The History and Chronology of the Fabulous Ages, Oxford, 1764.

that

that darkness visible, which has hitherto served only to deform and misrepresent every object of knowledge.

MONSIEUR GEBILIN'S *Monde Primitif* enters expressly into this line of research with the very spirit of analytic investigation, aided by extensive and greatly varied erudition : such talents promise great matters of information on this subject ; and in in many parts the work makes good those promises : I have my doubts about some other parts ; yet feel rather disposed to subscribe to his ingenuity and great learning.

One general caution must constantly be observed in this mode of reasoning, that while on one hand we do not refuse all historic faith to what is represented only in fable ; we do not, in the other extreme, receive that *as historic narrative of actual events* in particular, which is only *representation in apologue and mythos of the general state and course of events in the history of man*. I have illustrated the rule in the former part of this proposition by examples taken from profane history ; I will endeavour also to explain this latter by some distant suggestions of the nature of this in the earliest parts of divine history.

IF

guilt, and of deprecation of his punishment; perpetually repeated until some one general full and sufficient expiation should be finally made and accepted; also of offerings for the ransom of souls, and of atonement for crimes. This institution made various regulations in the animal œconomy, not so much from any foundation which they had in nature, as being constant outward pledges of inward obedience to, and faith in, the divine regimen. One branch prescribed regulations and distinctions respecting food, deriving from positive institution and command. Another branch of these laws meant to give operation to, and to maintain, that exclusive principle of generation, by which this race, chosen for special ends of providence, were to be kept separate from the race of man in common. A third branch contained the establishment of a system of sacrifices suited to this theology; and of ceremonies attendant on this particular state of the individual and community.

This book commences with an account of the origin of things, which rightly understood, is the most truly and strictly philosophic account which ever has been given, or is at present any where extant. The present enlightened state of philosophy

sophy can neither reprobate nor alter any thing in it. It does only confirm it.

When this book speaks of the origin of the world, it does not go beyond the bounds of human knowledge into metaphysics; it does not attempt to describe that act of the Creator which supposes the *bringing of Nothing into Being*, which is nonsense in terms, and contradicts what it predicates; but in the purest light of wisdom, and in the most refined sentiments of sublimity, writes, GOD SAID, LET IT BE; AND IT WAS. This comprehensive expression communicates, without presuming at defined terms, the indefinite præ-existence of the SUPREAM FIRST CAUSE, when *matter* did not exist; and also the commencement of the existence of matter by the will, and at the command of this FIRST CAUSE *acting by that will*.

This account of a visible world does not presume to ascend above what is seen. It takes up the account of the origin of things at that state, to which philosophic analysis can, in its highest range attain. It divides its account into the four classes of existence, the origin of the planetary and terrestrial system; the origin of animal life; and the origin of man. This is

supposed to proceed by six distinct periods, called metaphorically Daies (for they cannot *actually* be described as such before that state of things existed, which divides time into night and day). These periods on the whole are arranged rather to suit the classes of creation, than the order of time; yet under each class they follow the order of the process of nature, in what may be called the order of time.

As light or heat is visibly the first material instrumental cause and support of the state and being of the system, the creation of light is represented as the first process. God said, *Let there be light, and there was light.* This is the *first Period.*

Experience of existing facts, the philosophic investigation of the powers of nature, and the operation of those powers on matter, conspire to prove, that the globe in its original state was a moist lump of mud, a chaos in which the terrestrial elements were all in an indiscrete mass of confused matter. The Mosaic account of this earth being brought into its present system of being commences from this state: The earth was without form, and the Spirit of God moved upon the face of the *waters*, and directed the effects of
light

light or heat to operate upon it. The first effect or process of this operation, which is represented as the *second period* of creation, is the separating of the *expansive* * liquid, the unfixing the elastic fluid, the air (the cause and food of all life), from the waters which still covered the face of the whole earth; and *God said, let there be expansion in the midst of the waters, and let it divide the waters from the waters*; here comes in concurrent in the order of time, and the process of nature; the first process of the third class, that is, the production of *aquatic animal life*: *And the waters brought forth abundantly*. That this globe was once in this state, *an universal habitation for aquatic life*, appears from the still visible traces and consequences of this state. The shells, the skeletons, and other exuvixæ of animals, of aquatic life, are found in every part of the globe in the deepest vallies, and on the top of the highest mountains, even in the bowels of the earth. That they should be so found every where, and more especially on the tops of mountains, is so far from extraordinary, that it is a natural concomitant circumstance of this state.

* Liquidum Cælum. Ovid.

That the *principles* of vegetative life existed before the earth was reduced to that form which made it a proper nidus for the vegetables themselves coming into life, is directly said *, and that the same case took place with respect to animal life, may fairly be deduced from the whole tenor of the account; namely, that the plastick *fond* of their corporal mechanism was in like manner prepared before it was raised like man out of the dust of the earth.

That the constant operation and unceasing effect of light and heat produces a continually encreasing exhalation and exsiccation of this globe, so that the terrestrial parts of this globe perpetually gain upon the aqueous, has been proved by the greatest philosophers; I need not mention Sir Isaac Newton at the head of these. That internal inflammations and explosions in the bowels of the earth are, and have been at all times, for myriads of ages back, constantly making alterations and inequalities on the surface of it, is equally true and fact, seen in the effect. These secondary causes operating instrumentally as the act of the Creator, would form this

* Genesis, chap. II. v. 5.

third period of the Genesis, and throw the earth into such form, that the waters would be *gathered together into one place, and the dry-land would appear*. The moment that the dry-land was thus become a nidus for the vegetative life; The plants and every herb of the field *, the *fond* of whose existence had been before prepared and made, would now vegetate, and the earth would of course bring forth grass and herb yielding seed, and the fruit-tree, and every tree of the field, which is represented as the *third period*. Under this state of the globe, the second and third process of the third class would in the course of nature and the order of time, come into concurrent effect; that is, the fowls that swim on the rivers, lakes, and seas that fly in the air, and live on the face of the earth; every living thing *after its kind*, cattle, and creeping thing, and the beast of the earth, would be brought forth to a life prepared for them, from a nidus which the Creator had animated. This is represented as the *fifth period*.

The giving system to the second class of the God's work comes forward *in this apologue*, not as a narrative in the order

* Genesis, chap. II. ver. 5.

of time, but as the *fourth period* according to the general classing of the parts of creation. This period does not seem to represent the creation of the planetary system, but as describing the effect of the rotation of the earth round its axis, by which day and night were divided, by which the greater light ruled the day, and the lesser light ruled the night ; by which the lights in the firmament became signs to days, months, and years, and the variety of seasons, and by which they were produced.

When the whole system, thus far perfected, was prepared for man, God *formed man of the dust of the ground, and breathed into his nostrils the breath of life, by which he became a living soul, after God's own image.* This is the *sixth and last period* of the creation. A *seventh period* is that in which God is said to have rested from his work, and which period he is represented as having *therefore* blessed and sanctified. The account of the sanctifying the seventh day as a sabbath, cannot be meant as a narrative of fact, which inspired truth relates *as history*, because it is contradicted by a different fact in a different * reason given from the same authority

* In this day, thou shalt do no work ; that thy man servant, &c. may rest as well as thou. Remember that
thou

thority, for God's sanctifying the sabbath, or seventh day *. It is an application of the apologue in this part, as it is made to apply in every other part, to the theocratic institution of the Israelites.

When these days are understood to be *periods, and not days*, as they are vulgarly conceived and translated; when understood to be classed rather according to the parts of the general system, than placed historically in the order of time; the Antiquary will find this Mosaic account of the Genesis of the world confirmed by the facts and phenomena which exist in every part of the system of the earth and heavens. Nor is this truly philosophic account involved in any such childish, silly, ignorant notion as the giving so short a space of time to the existence of this globe, as it must be confined to, if it literally began not more than a week before that period whereat our accounts or history of man commence. The author of this book never meant, and does not here or elsewhere give any such idea: The spirit of wisdom and truth which directed this account is raised above

thou wast a servant in the land of Egypt, and that the Lord thy God brought thee out thence; *therefore* the Lord commanded thee to keep the Sabbath-day.

* Deut. chap. v. v. 14.

all such vulgar unphilosophic stuff. This earth, and this system of the heavens, may have existed and been going on, in the process of the operations and laws of nature (called here the acts of creation) for myriads of ages, which the Mosaic accounts divided into six periods. To this account the internal structure of the earth itself bears incontrovertible evidence. I do strangely mistake all reasoning, and all scale of ideas, if this reference to the state of this earth, and of this system so explained, is not the best commentary to the Mosaic Genesis : and if the sublime idea of it will not be the more elevated, and the divine philosophic truth of it the more demonstrably confirmed thereby.

If the Antiquary should be allowed to proceed in this line of explanation of the Mosaic antediluvian history, as an *apologue* ; he would certainly find that the second and third chapters of this book mean to describe the two states in which man hath lived upon this earth, concurrent with the account of the progress of his depravation and corruption, and the attendant punishment thereof, all accommodated in the moral of the Mythos to the Jewish institution. He is first represented in his sylvan state, which is represented as a state
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of perfection and innocence, living in the garden of the world, on the spontaneous fruits and herbs of it, which were given to him for food. The mode of his life is represented as regulated by some positive commands of God respecting the distinctions of this food. There was one tree, *the tree of knowledge of good and evil*, the fruit of which he was forbidden to taste.

This is a *mythic* tree (a * symbol not unknown to the Egyptians) representing in the luxuriancy of its branches, the wildness of mens opinion; and by its tempting but poisonous fruit, the mischievous effects of being seduced by the vanity of false learning, to become wise above the station prepared for us.

His quitting this state in which he was originally placed, his growing too wise, in his own conceit, for such a confined situation, his being tempted to views of a more enlarged system by a more expanded scope of his capacity; his substituting the artificial system of the land-worker, and spoiling a good world, as the Indians of America describe the clearing it to be; his becoming a member of society; the sub-

* Vide Norden, plate LVIII.

ject-creature of government; is finely represented as his eating of this fruit of the tree of knowledge of good and evil: and the latter state, that of the land-worker, is represented as under a curse, and is made the punishment of his disobeying a positive command. This account, taking it as a general classed representation, not an historic narrative, is a true history of the state and progress of man's being on earth, and thus told, is with infinite address made relevant to the maintenance of the spirit of legislation in the theocracy.

When in the course of this mythic history, this second state of man is described, as his having the thoughts of his heart on evil only; of the wickedness of man being continually great, and against the order and spirit of God's government: how is all this corruption accounted for? It is stated as arising from a supposed crime committed against a positive regulation respecting marriage, relevant to a like regulation of the institution of the theocracy, by which the children of Israel were forbidden to intermarry with the daughters of men out of their own nation. This crime, an artificial one, *made so only by institution*, which institution did not exist
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at that time, is represented as the cause of all the evil, as the thing in the then race of men which God reprobated, which grieved him at his heart, on which it repented him that he had made man, and on which he resolved to destroy him from off the face of the earth. The crime did not only not exist at that time, but as far as the account in this book goes, the act could not exist; as there was at that time no such separation of the human being as that of the sons of God and the daughters of men, either made, or supposed to take place: The Antiquary therefore will not suppose that this is meant to be stated as a narrative of a fact; but as the *mythos* of the apologue out of which the moral was to arise and apply: As the present state of the world is represented as having by renovation arisen from the destruction of a former one, destroyed by an universal deluge brought on as a judgement upon a former race of men in consequence of their crimes, and total corruption; the leading cause of that corruption, and the specifick crime which is supposed to be punished with such exemplary severity of Divine Justice, is that specifick act of marrying the daughters of strangers contrary to the express prohibition of a fundamental law of the state, the commission
of

of which would dissolve and totally break up the exclusive establishment of the community chosen, selected and set apart from the rest of human race.

The considering the present state of the world as suffering the execution of a punishment inflicted by the Divine Judgement for the commission of a crime which totally counteracted and perverted the original state of it, a state originally happy, is not only an example holden forth of God's Justice acting by an extraordinary Providence, but is, to the faithful under this institution of the theocracy, the plainest and most intelligible account of the Origin of Evil both natural and moral, that is any where extant, without being perplexed and involved in any of those metaphysical difficulties which every philosophic account constantly leads to.

In like manner the understanding that prohibition which, after the Fall of man, was given against his eating of *the Tree of Life*, as a veiled mythic part of his apologue; not as if it was actually supposed, that the accretion of any matter, especially of divisible matter, taken and secreted as food, could *in fact* give immortality

tality to the immaterial indivisible part of man, to the living soul which was after God's image ; not only relieves the account from historical and natural difficulties, but gives, in the precise line of analogy to the whole, the best commentary to it. *A Tree* here, as in the former case of the *Tree of the knowledge of Good and Evil*, is a symbol of man's knowledge branching by various deductions and producing fruit, and may fairly be supposed to mean here the knowledge or doctrine of immortality, of life in a future state, the belief of which expressly counteracts the principles, the doctrine, and spirit of an institution of a theocracy, where all rewards and punishments, to the restoration, protection, and establishment of right, were under an extraordinary providence confined within the verge of the present state, and present life. All these metaphysical disquisitions therefore into the immateriality and immortality of the soul, all those branchings of reasoning which produced the fruit of a belief of a future life, and of a future state of rewards and punishments, were to be most strictly guarded against, the mind was prohibited from tasting *this Tree of Life*.

These instances of crimes and punishments, taken as the narratives of actually existing

existing facts ; these descriptions of the state of man ; these prohibitions literally understood, are surrounded with innumerable and inextricable difficulties both as to the facts, the philosophic doctrines, and the general grounds of morality and justice. But taken together with the whole of the antediluvian history, as parts of an apologue explained as above, the whole gives a real picture of the general progress of the state of man ; of his particular state under the institution of the theocracy ; and is made relevant to the whole code of laws, to which this book is a preface.

I shall here close my review of ancient history ; and of the duty of the Antiquary as its commentator ; with the examples as above, taken from divine and profane history, which I think prove, that these histories will be best understood when on one hand all idea of fact is not excluded from what may be told in *fable* ; and on the other, when that which is plainly written as *mythos*, giving a general representation, not a particular narrative, is not taken as a state, or matter of fact. *Tamen nonnulli isti, Tite, (sayeth Cicero) faciunt imperitè qui in isto opusculo, non ut à poeta, sed ut à teste, veritatem exigant* *. The ad-

* Cicero de legibus, lib. I. § 1.

ducing these two particular instances, gives (in example) explanation and proof, that although * many things in the *manner* and on the *face* of the Muthos may appear fictitious and impossible; yet when read aright by those † “ *who understand a proverb, and the interpretation thereof, who discern the words of the wise and their dark sayings,*” they will be found to contain *general Truths which lead to real and effective knowledge.*

It is arrant nonsense to suppose, that a voyage of such importance as the Argonautic expedition is represented to be, should have been undertaken as a mere piratical enterprize to steal a *Fleece* however precious; but when it is understood in the interpretation as an expedition formed by the Greeks, in which the first heroes of their country are supposed to have been engaged, against a commercial establishment and colony of the Phœnicians or Egyptians, in order to obtain possession of that *important trade of the Euxine*; then there appears meaning, good sense, and political wisdom in that part of the story.

It is impossible that the same crew, in the same ship, and in the course of the

* φανερώς πεπλάσμενα κ' ἀδύνατα, τὰ μὲν γὰρ ἐν μύθῳ σχήματι, τὰ δ' ἰστορίας. Strabo, lib. i. p. 62.

† Proverbs, chap. i. v. 6.

same voyage, should * penetrate up to the heads of the Danube, pass the Alps, carry this ship and their booty over the portage from the waters of the Danube to the waters which run into the Mediterranean, and descending by the navigation of these into that Sea; and at the same time be said † to have passed up the Tanais, then over the land to the heads of the rivers which interlock with this, and then down these rivers into the Baltic Sea, from whence by the western ocean, and the Streights of Gades, into the Mediterranean Sea. But when this Fable is in its interpretation understood, as I have stated it, to be an historical *map of Commerce, in which the courses of these two routs were principal channels*, the whole becomes plain and actual information.

That † HERCULES should sail through the sea to the most western bounds of

* Vide Strabo, lib. iv. p. 177. et lib. vi. p. 305.

† Αναπλεύσας δ' αὐτὸς διὰ τῆς Ταναΐδος ποταμῆ ἐπὶ τὰς πηγὰς καὶ τόπον τινα τῆς Ναῦν διελκυσάσας καθ' ἑτέρον πάλιν ποταμῆ τὴν ῥύσιν ἔχοντος εἰς τὸν Ὠκεανὸν καταπλεῦσαι πρὸς τὴν θάλασσαν ἀπὸ δὲ τῶν ἄρτων ἐπὶ τὴν δύσιν κωμισθῆναι, τὴν Γῆν ἔχοντας ἐξ εὐωνύμων, καὶ πλῆσιον γενομένους Γαδαιρῶν εἰς τὴν καθ' ἡμᾶς θάλασσαν εἰσπλεῦσαι.

Diodorus Sic. lib. iv. c. iv. p. 180.

‡ Apollodorus Paryasis, and Pherecydes, quoted by Macrobius Saturnal. l. v. c. 21. Also Servius, &c.

Europe

Europe *in a cup* * ; That ABARIS should make his journey from the north of Europe to Magna Grecia conveyed upon and guided in his courses, by an arrow ; That THE SHIPS OF ALCINOUS † should be animated, and moreover inspired with a knowledge of their course ; is in the ouvert meaning of the literal account incomprehensible Romance : But if the Antiquary, *possessed of the fact*,

That the power of the magnet to attract iron ;

To attract and repel it alternately ;

To communicate this virtue to iron itself ; was known to the ancients ; should by an induction and combination of subsequent fragments of facts as they lye scattered in the ruins, or veiled, and hid under the mysteries of ancient learning, should be able to collect, which I think may be done ; that its *Polarity* also was known to the

* Jamblicus.

† Ἐπιπέδῃ μοι γαῖάν τε τέην, δῆμιόν τε, πόλιν τε·
 "Ὀφραῖ σε τῇ πέμπωσι τιτυσκόμεναι φρεσὶ Νῆες.
 — αὐταὶ ἴσασι νόηματα κ' φρένας ἀνδρῶν,
 Καὶ πάντων ἴσασι πόλιας κ' πίνας ἀγρῶν
 Ἀνθρώπων κ' λαῖτμα τάχισθ' ἄλως ἐκπερώσιν,
 Ἥρι κ' νεφέλη κεκαλυμμέναι.

Homeri Odysf. lib. viii.

τιτυσκόμεναι signifies being directed as an arrow ; or as by an arrow.

Ἥρι κ' νεφέλη κεκαλυμμέναι. The sight of the heavens and places of the stars was not wanted by ships, which had this guidance.

ancient navigators, and guarded by them as a most profound secret ; as also, that the knowledge of this came from the * north, and that when the magnetic needle was first used, it was in the shape of an arrow, which it retains to this day ; then these Fables will, in their interpretation, open to us an *important fact* that will explain many things in the commercial history of the Antients.

* Where it is called *Lodestone*, or the *Pilostone*.
Socio-Gothic Dict. of Ihre.

END OF PART THE FIRST.

APPEN-

A P P E N D I X.

N° L

Analysis of the Elements of Speech, as applicable to Etymology, in the study of Antiquities.

MAN is endued with a power of expressing, or (if I may so say) taking off copies of the sensations, reflexions, and reasonings, which reside and pass in his mind: and of communicating these to his fellows by arbitrary vocal sounds, which have no natural connection with, no not the most distant similitude to things they represent. This effect of speech is so universal, and seems so natural in its operation, that to the unthinking unphilosophic observer, the connection betwixt thought and speech will appear mechanical; and indeed nature so works in us, that the act of the speaker, and the effect produced in the hearer, seem as though matters had been all thus arranged by nature. Speech is by the Naturalists said to be the peculiar perogative of man; but I apprehend that this doctrine favors more of the pride of

man, than of the humble spirit of philosophy and truth. I see, to my own conviction, that all animals, each in their species, have the means of communicating with each other in all the degrees, and to all the purposes, necessary to their state of being, analogous to what we call speech. * *Bestiæ ipsæ quendam quasi modum loquendi inter se habent, ut quosdam motus affectuum sibi mutuo representant.*

I will not, in this place, and at this time, enter into that question. I cannot, however, but wish for the sake of mercy, that we thought more highly of the wretched brutes that have fallen under our power, than we do. If we would exercise somewhat less of tyranny, and somewhat more of our reasoning and morality towards them, we should see many things in them that deserve our pity; we should discern in them many *traits* of reasoning, labouring to understand us, when the quarrel between the man and beast arises from the insolent ignorance of man. We should receive perhaps some impressions of the patient-enduring, noble, generous, courageous, and even grateful temper, in them: and we should have the pleasure of

* Sir T. Smith.

De rectâ et emendatâ Linguae Græcæ Pronunciatione et Linguae Anglicanæ Scripturâ. 1568.

receiving meritorious as well as beneficial services from them.

Various as all the languages of the world may seem; and infinite as the words of those languages may be: yet are they all compounded of and resolveable into a very defined and small number of acts of the voice.

The inventing of characters to express the elements of speech, and render it visible to the eye, when the analysis has once led to them, is not a matter of great difficulty; but the being able to institute the analysis, by which this knowledge was first elicited out of the infinity of sounds, was a real difficulty, that seems, even now it is known, wonderful, and above the common range of human understanding.

I have heard of many letter'd and learned men who have reasoned and written discourses on this subject; but as it has not fallen in my way to see their books; nor to my leisure to have read many that I have seen; nor to my good fortune to receive much satisfaction from what I have read; I was led, in my lonely and leisure hours, spent where I had not access to books, to read nature on this subject,

by experiments on the articulation of the voice, plotted and set down at the time. What therefore, when I was in America, I did attempt to do for my own use on my own ground (endeavouring to settle some etymon of the Indian words) I will now venture upon revivál to communicate to the public. As I do not set myself up for, nor aim at the character of a scholar, I can have no vanity in this. I risque the being thought presumptuous; but as I think my mode of analysis may chance to lead to something better, I will risque this. That the reader, however, may not entertain a prejudice that all which I attempted was mere empiricism without some foundation in nature, or conducted without any reference to the laws and rules of philosophy, I will beg to commence my analysis by the account which Plato gives (in his Dialogue Philebus) of the supposed analysis by which Theuth arrived at the knowledge of the elements of speech when he is said to have invented elementary letters. — “ Whether the invention of
 “ writing by elementary letters derived
 “ immediately from some god, or whether
 “ mediately through some divine in-
 “ spired person, as Theuth is amongst
 “ the Egyptians said to be; the follow-
 “ ing seem to be the human means used.
 “ He

“ He first applied his mind to the infinity
 “ of vocal sounds, in the complex mul-
 “ titudes. He then began to distinguish
 “ these into simple *vocals* and *articulations*
 “ of sound. He found these to be con-
 “ tained in a definite number. He next
 “ entered into a further distinction of
 “ these, into unvoçal and inarticulate.
 “ And then when by his mode of reso-
 “ lution thus conducted, through the vo-
 “ cales and articulate, the unvoçal and
 “ inarticulate, and the mixt or interme-
 “ diate, he arrived at those *ultimate sounds*
 “ and *articulations* which could be no
 “ further divided, he not only perceived
 “ that they were definite in their genus
 “ and species, but in their number. He de-
 “ fined the number of each, and called
 “ these Στοιχεῖα or elements, and invented
 “ apposite Γράμματα signs or characters to
 “ express them. Out of this he formed
 “ the art of writing *.”

* As I have given above a free interpretation of this passage, I here insert the original. Ἐπειδὴ φωνῆν ἀπειρον κατανόησεν, εἴ τε τις Θεός, εἴ τε κὶ θεῖος ἄνθρωπος, ὡς λόγος, ἐν Αἰγύπτῳ, Θεῶν τινα τῆτον γενέσθαι λέγων, ὃς πρῶτος τὰ φωνήεντα ἐν τῷ ἀπείρῳ κλιανόησεν οὐχ ἐν ὄντι, ἀλλὰ πλειῶν κὶ πάλιν ἕτερα φωνῆς μὲν ἢ, φθόγους δὲ μετὰ χροῖα τινός; ριθμὸν δὲ τινα καὶ τῶν εἶναι· τρίτον δὲ εἶδος γραμμάτων διετήσατο, τὰ νῦν λεγόμενα ἄφωνα ἡμῖν· τὸ μὲν τῆτο διήρει τὰ τε ἄφθογγα κὶ ἄφωνα μέχρις ἐπὶς ἐκάστω, κὶ τὰ φωνήεντα κὶ τὰ μέσα, κατὰ τὸν αὐτὸν τροπὸν· ἕως αὐτῶν περιθμὸν λάβων, ἐνί τε ἐκάστω κὶ ἑξέμπασι στοιχείων ἰκονόμασε, Γραμμικήν τέχνην ἐπιφθέγγετο προσειπών.

According

According to this mode (*κατὰ τὸν αὐτὸν τρόπον*) I began by considering the flow of the air as it comes from the lungs, and pursued the progress of it as it passed by the organs of speech and was there formed into *intonations* and *articulations* of voice. The first pass whereat the sound is articulated, so as to form an element of speech, is at the glottis and roots of the tongue. There the sounds G and K, and these two only, are formed: G by giving a check to the air, and then letting it pass with a gradual accelerated motion by the lower part of the glottis; and K by a like check of the air, but then letting it pass promptly from the upper part of the glottis along the roof of the mouth. To give by a palpable image some distinct idea of what I here mean, I will suppose a flowing water suddenly stopt by some sluice, and then by a drawing door let to flow again, which makes the first case. A like flowing stream in like manner stopt suddenly by a sluice, which, with a falling gate, lets the water flow all at once, forms the second case.

There is yet another action of the glottis which articulates in a more open or liquid manner, and forms what I would call, in distinction to the close g, an open G or Y;
of

of which the following are instances and explanations at the same time. *Gate* a *Yate*. Eight as the Scotch pronounce it, Eiyht as the English pronounce it. *Dag* Germ. *Day* Engl. *Wag* Germ. *Way* Engl. Instances of the use of this distinction between the close *g* and the open or *y*, will occur repeatedly in etymology.

This mode of analysing requires perfect liberation from all prejudged system, and more quiet patience, than many, who think they know me, will give me credit for. I mention this because I would not have them trust me; let those who think these studies worth their while, try the experiments themselves.

The next pass which the current of air has to go through, is by the middle of the tongue. The air flowing over the tongue approached to the roof of the mouth, while the point makes a vibration, produces the articulated sound *S*: The sound flowing in the same manner while the point of the tongue makes a rougher vibration and strikes the roof of the mouth, articulates *R*. The tongue approached to and in contact with the roof of the mouth, as the air is coming forward towards it, so as to let the sound articulated pass on each side
of

of the middle of the tongue, produces L. These three are the only articulations which the tongue in this pass of the sound can make.

The next pass at which the air is formed into articulated sound, is, as it goes forth between the end of the tongue and the teeth or gums. Here again the air being checked by the application of the tongue to the teeth or gums, and then by a sudden stroke of separation being let to pass forth articulated, forms the two elements D and T; the first by an application of the tongue laid broad to, the second by a more pointed application and stroke, at separation.

As the air at its last pass goes forth by the lips, these organs give it two articulated sounds, which form the two elements B and P. Here, as before, the air is checked by a closing of the lips, and particularly pressing the nib of the upper lip against the under, so as by a stroke at the separation to let the air pass articulated into B and P; the first by a parallel equal opening, the second by a more angular or pointed opening.

There remain still two other elementary sounds of voice, which can not properly be

be said to pass out at the mouth, for they are articulated and founded, the first with lips actually shut, and the second clearly in and through the nose. In sounding M, the air is stopt absolutely by the shutting of the lips, and is returned up into the nose. In articulating N, the lips are not actually closed, but the air articulated into sound is returned back through the nose.

The first two may be called guttural, or rather for distinction sake, as will be seen presently, I should wish to call them glottal ——— G. K. because I speak of the guttural catch besides

- | | | | |
|---|------------------------|-----|----------|
| 3 | The three next lingual | — | S. R. L. |
| 2 | The two next dental | — | D. T. |
| 2 | The two next labial | — | B. P. |
| 2 | The two next nasal. | --- | M. N. |

II articulated sounds.

Not any one of these elements can be pronounced without some oral *intonation* annexed to the articulation. Each can be pronounced with five different such oral sounds annexed, but with *five only* and no more; all equally can have five oral sounds annexed, but they are yet the same *five orals* annexed in the same manner. These oral elements can be founded as

parts

parts of speech when separated from what I call the articulated elementary sounds. The others, without an annexion of some of these orals are not sounds, but rather the articulated vehicles of sounds. Analysis then leads to experiments made of the voice as to these orals, separately by themselves, and conjunctly with all the articulations; and the result is that there are but five ultimately distinct intonations of voice in speech. A * pronounced in the opening of the mouth by an elevation of the roof and an angular elevation of the upper lip; U by a lowering somewhat of the under jaw, and an angular projection of the under lip: E by a parallel opening of the mouth and curvilinear contraction of the under lip. O by an oval or circular opening of the mouth and lips, and I by a simple perpendicular stroke of the jaws in the enunciation of it.

These *sixteen elements of speech* are all into which vocal sound can be ultimately resolved; and more are not necessary nor are found as ultimate elements in any language; the five Nation-Indians of North America do in no case use the lips in speaking. There cannot be therefore, nor are any labials in that language.

* Vide Plate D in Appendix, No II.

These

These indivisible elements neither are nor can be pronounced differently (whatever characters they may bear which disguises them) from the ultimate elementary articulated sound into which the sound of all languages may be resolved.

All are, however, by different languages, and by the same language spoken under different climates; variously furcharged, either by *a guttural catch of the voice*, as they pass the glottis; or by various *aspirations* as they pass off after their articulation; or (as in the special case of M and N) are followed by a rebound of sound, the consequence of the form which the organs had taken in articulating them.

Sir T. Smyth says, that each nation or race of people hath each its peculiar sounds, which each reciprocally cannot pronounce exactly. And that therefore there should be different letters to represent these sounds. If by letters he here meant characters, the conclusion is fairly drawn; but unless he first proves that these differing sounds are ultimate indivisible elements, they do not require different elementary letters. Upon examination (as will be seen hereafter) they will all prove to be the same elementary sounds which all men use, but fur-

furcharged with a guttural catch or an aspiration, or other mingled adjunct which can be divided from them. Now these peculiar enunciations of the elements of speech furcharged with these adjunct or mixed compounds, arise from different forms and textures of the organs of speech, and these forms or textures arise from different habits of life, or the effects of different climates. These guttural catches or hanging of the voice about the glottis, these aspirations furcharged upon, or mudyly mixt with the elementary sounds, are chiefly found in early barbarous times, and in northern climates, and many of them by degrees wear out of use.

In the glottals, being guttural, this catch of the voice became what was properly called the *Digamma*, as having by the catch or hanging of the voice the effect, in pronunciation, of a double G or K. In the linguals this furcharge in different nations always preceeded the R: Added a hoarse furcharge, a thick breathing rather than a sound to S: and doubled L, with a hoarseness coming betwixt (something like but not F.) which no people, that I know, can pronounce but the Welch, as they do when they pronounce Ll.

The

The dentals are in like manner sometimes surcharged with this hoarse aspiration, sometimes with a kind of muddy dissolvent in the various pronunciations of Dh and Th. The English pronunciation expresses this, which I do not know to describe, but have given examples of in pages 165 and 166.

The labials are also liable to the same, as in the instances of B and Vaw or ev; and P or Phi, Fi, or iph and ef.

As the lips are close shut at the articulating and pronouncing M; when they open, after it is enounced, they seem to give and add to it the rebound of B or P mute, and thus we English in many cases pronounce it, as thumb and comb; as swamp, from the old word swamm; where, as Ihre in his preface to his Dictionary says, P additur à fine.

The sound of N, in pronunciation, can scarce go off with a rebound of the voice in a tou something like to g or k adjunct; the French pronunciation hath this very strong.

The ancient Hellenists had not originally many of these surcharged adjuncts in their

enunciation, and used but one borrowed character to express them all, the character, *F, F*, the Æolic di-gamma. It partook of *H, F, V, G, J, Y* and our *W* founded *ou*, just as the surcharge, at the time, and in the case, happened to be initial or final; mixt with and adjunct to consonants; or inserted between two vowels.

Dionysius Halicarnassus * mentions not only the form but the power of the *di-gamma*, which he says was a character resembling the double [Γ], gamma, as *F*; and had a sound when prefixed to a vowel beginning a word, something like *ou*: He then gives an example or two. Speaking of the low swampy places which the Aborigines in Italy assigned to the Pelasgoi upon a treaty with them, he says those places had τὰ πολλὰ ἐλώδα, which, according to the ancient pronunciation, were called *δέλια*, Wallia, Felia, or Velia, or Vallies: Thus οἶκος, written *φοῖκος*, was pronounced *Vicos*, or *Wicos*, the radix is *Wic*.

* Σύνηθες γὰρ ἦν τοῖς ἀρχαίοις Ἕλλησιν, ὡς τὰ πόλλα, προσιθέσθαι τῶν ἀνομασίῳν, ὁπόσων αἱ ἀρχαῖ ἀπὸ Φωνηέντων ἐγένετο τὴν οὐ συλλαβὴν ἐνὶ σοχείῳ γραφομένην· τῆτο δ' ἦν ὡσπερ γράμμα διπλαῖς ἐπὶ μίαν ὀρθὴν ἐτιζυγνύμενον ταῖς πλαγαῖς ὡς *φελην* κ' *φάναξ* κ' *φοῖκος* κ' *φανῆς* κ' πολλὰ τοιαῦτα.

When in after-times these Hellenists began to analyse their language with some scientific attention, they invented characters to express some of these mixed sounds, as χ , θ , ϕ , ψ , ξ , ζ , and so refined the rest, as that the Æolic digamma ceased to be of use or in practice with them.

What I have said must depend upon fact in such instances as the learned reader shall meet with. I, an unlearned labourer, will give some examples, or proofs, of what I here venture to assert. To begin with the gutturals of the glottal elements. Both G and K are surcharged frequently with a catch or hard breathing, which the ancients either supposed to be a hanging or catch of the voice, and therefore expressed by a Di-gamma or an asperate, and supposed an h to be the adjunct of this surcharged pronunciation, in the first case they used the *F* or *F*; in in the latter *T* or *Gh* and χ or *Kh* and double *F* or *ff*.

The surcharge in the pronunciation of the Linguals R, L, and S, was various, as $\rho\rho$, or *F* ρ , or *B* ρ , or *H* ρ . L was doubled and had the digamma under the sound of *F* interwoven as *L F L*. S had h or rather ch adjunct to it, but in my opinion, formed on repeated experiments,

L 2 and

and in the opinion of a much better judge than me, I mean the very learned Sir T. Smyth, neither *h* as in English, nor *ch* as in German, answer the sound of *Sb*. The open *g*, or *y*, the true di-gamma, is what here makes the proper adjunct. Neque sonus ille [inquit Smythius de rectâ et emendata Ling. Angl. pronun. et script.] quem nos proferimus dum *illam* (i. e. *She*) aut *fraxinum* (i. e. *Ash*) dicimus, rectè, per *She* et *Ash*, conscribitur, nec enim verus et genuinus sonus utriusve literæ auditur. nam desit τῶ̃ *S* serpensinus ille sibillus, et τῶ̃ *h* grandis et violentus afflatus. Sed quidam intermedius et *mixtus sonus* persentitur. Vide autem quantum a vulgi opinione differt iudicium meum, et ut intelligas clarius quod volo, primum sona illud quod apud nos [viz. Anglos] infernus appellatur, *Hell*. serva sonum hunc integrum et prepone *s*, *s-hell*. Ita sona quod appellimus *hall* et prepone *s*. *s-hall*. Vides non sonari illud quod nos *concham* nostrâ vocamus linguâ, nec quod est futuri temporis signum nostratè. At nunc è contra sona quod nos nostrâ linguâ *ejulare* dicimus, scil. *Yell*. et idem quod de canibus dicitur *Yaul*, et prepone *s*. servando semper priorem sonum, ut unam tantum syllabam faciendo, et invenies *syell* et *syall*. Quæro nunc abs te, mi Quinte, uter sonus propinquior

pinquior ei quem pronunciamus cum volumus dicere *anglice* concham [Shell] et signum temporis futuris [shall]. Profectò hæc posterior per S et Y—In the examples which I shall give presently, the reader will have frequent occasion to observe that Y (open G as I call it) sounded as we English sound it, occurs more often as the true sound of the di-gamma than any other.

In like manner the two dental elements D and T are liable to be, and are actually, surcharged with an adjunct sound, which is commonly supposed to be a mere aspirate, and supposed also to be expressed by *h*, as Dh and Th. And the Greeks, as is supposed about the time of the Trojan war, invented the character Θ and θ , to mark the expression of this mixed sound Th. But no character was, as I understand, ever used to mark the surcharged D, or Dh. And yet after all, this θ does not fully answer with precision to the case in which it is applied. T with the aspirate *h* adjunct to it, has a very different sound from the $\Theta\eta\tau\alpha$ and the $\delta\eta\tau\alpha$, both which are not only different from it, but from each other. I will give examples of this from our English, Saxon, or Deutsch language, which I may fairly do, as it will

appear that these derivatives observed and preserved the original pronunciation; when I say that *h* as the aspirate is *adjunct* to the *d* or *t*, I follow the expression of my learned master; non dicimus permisceri literas, sed adjungi; now that *h* thus adjunct to *d*, or *t*, does not give the very different mixt sounds which we perceive in the words, Ta'en, Thane, Than. Tea, The, Thief. Tye, Thigh, Thin, Thine, Thy. Taw, Thaw, Though. Tum, (the Latin word) Thumb, Thus; Tun, Thunder, nor either of them; try it by my master's resolution and composition, sound first *e*, then *h* *he*, then adjoint to this the distinct sound of *t*, preserving the unity of the syllable and your ear will receive *t'*-*he*, and so of the rest; but if desirous to proceed further, you would wish by this means, by this *T* and *h* adjunct, to express the two very different sounds which *Th* has in the article *The*, and in the word *Thief*; this adjoining of *h* either to *T* or *D* will never do it. This is a peculiar *permixt sound*, which I believe will appear the Greeks never had in use or any notion of, nor the northern people whose language they originally spoke, for by the words in German which are clearly Greek, the sound is *T'h* and *D'h*.

Analogous to what occurs in these, a like surcharge operates on the two labials B and P; and here again the note of aspiration, or the general mark of the digamma variously founded, is supposed to serve for the peculiar expression. P is muddled into Ph or F, and B into Vau or W.

This digamma bearing the semblance of Gor Γ, at the beginning of words was emoliated into Y and W, and often in the latter end of words into Y, W, or ff,—thus 'Αρης made both warr and guerre; dag, day; octo, eight, eiyht; daughter, dawter; laugh, laff. This digamma with the semblance of G between two vowels is seldom pronounced as G hard, but as open G, or Y, or as V, or as H, of all which there are examples in the same word pronounced in different languages.

I have said, and upon repeated tryals I am persuaded to adhere to my opinion, that there are but sixteen ultimate indivisible elements of speech within the power of mankind; for although, from the various use and texture of their organs of speech, they may aspirate, confuse, or surcharge these; yet whatever sounds they enounce, such still remain divisible to those ultimate elements. The variety of dialects

and languages, however, arise from the interchangable use of the elements of the same organ of speech, from the mixing of them with each other, and from the surcharging them with the various modes of aspiration. Thus one race or nation of people is inclined to use G instead of K; or K instead of G; D instead of T; or T instead of D; B instead of P; or P instead of B.

By an attentive examination of the peculiarities in enunciation which each people have, in the one way or the other, by a fair reciprocal analysis of the agnate words they reciprocally use, I think a much greater *agnation* may be found amongst all the languages in the northern hemisphere of our globe, and much more philosophic *derivation* of these from some other languages may be deduced than is commonly thought to exist.

This sort of analysis, this resolution and composition of language into its elements, universally pursued to its etymon, seems to me the duty of the antiquary, and would give great light to the study of antiquities.

From the following list of words, which I write down more as examples to illustrate, than

than as testimony of proof, will be seen how the words, which are therein inserted, although they scarce seem to have the least similitude, yet prove to be the very same words spoken with the same elements differently aspirated, mixt, or surcharged with adjunct sounds. The reader is desired to recollect the ideas given of the various tones of the digamma, and of the aspirate Th and Dh, and of G, and what I call open G or Y, with more particular attention.

Αια, ια, Εα, Εy, all signify in their termination land or country; and pronounced with the guttural catch become Γη and Γαια.

"Εαρ, ver. with the digamma Y, is *year*.

Εια, gramen with the aspirate, is *hay*.

Ετι, with the aspirate, is in Swedish, *Tbet*, with the digamma Y in English, is *yet*.

Αιολος *verfutus*, with the digamma W, is *Wyley*.

"Αηρ must have been sometimes pronounced with a digamma, inserted between the two vowels, whence it produced Ae(th)er, Æther; we shall meet with more examples of the same.

"Αρης, Mars, with the digamma W, is *war*; with the digamma G, is *guerre*.

I believe

I believe it will be found that G was by different nations, ancient as well as modern, commonly pronounced as I and Y, or open G, as I call it, and sometimes W, and sometimes K.

Γονυ = Genu, K'nee.

Γύλιος = vasculum militare viaticum, Wallet.

Γερανός = Grus, Yheran, Swedish; or Heron, English.

Γαυσω = facere cursum tortuosum, to yaw, said of a ship, when she runs a tortuous course.

Γεισον = suggrundium tecti, Joist.

Γένειον = mentum, Djin or Chin.

Λεγειν = colligere, German, legen. Old English, lig, now lay.

In like manner, those words which are in Swedish, written and pronounced with G or J, are in the English derivatives written and pronounced as with Y, being so founded in the original.

Swedish.	English.
Gabb = irrisio	Yabb or Yape
Garn = lana	Yarn
Gule = flavus	Yellow
Ju = tu	You
Yern = Ferrum	Ir'n
Jo = imo	Yan, Yea, or Yes

Jul

Jul = Nativitas Christi Yule
 Juul = Cimba Yaul
 Junker = Juvenis Younker.

Hj is the aspirated *i*, which the English pronounce as with a mute *y* after H.

Swedish.	English.
Hjelp.	Hyelp
Hjelm	Helm
Hjert	Heart
Hjord	Herd
Hjul	Wheel.

Whenever in foreign words G or Gh termines, we soften this by opening G to Y, as in the common termination Lig, we open it to Ley; Laugh, Cough, we pronounce Laff and Coff; Daughter, Dawter, and so on. Dock, T'hough; Tag, Day; Wag, Way.

When the G as a digamma is inserted between two vowels, I believe it is always opened, as Vo(g)el, Fo-el, Fowl. When one sees that oeil and oculus are agnate words, signifying the same thing, one cannot doubt but that o-eil was pronounced with an inserted digamma like vogel, or like the Swedish Hagel, softened by the English into Ha'yel, now spelt Haile; as
 thus,

thus, o(g)eil, and in fact we find it so in the word *ogle*.

The Greek 'Pύειν makes the Latin T'ra(h)are and the German D'ra(g)en, and the English draw or drew.

Now 'Pύω was certainly aspirated, and had in pronunciation a digamma, which was neither a determinate *b* nor *g*— take the open \bar{g} or \bar{y} , and the derivation, or rather agnation, is clear in all the languages.

Our ancestors the Saxons had a peculiar method of pronouncing the aspirated D and T, in a way in which the original sound was well nigh lost. Although we are in common taught to think that in these we use the true Greek pronunciation of the θ , I am apt to suspect we are mistaken, and that θ was scarce ever pronounced as we use it; for instance, Θεός made D'eus, or T'eus, and not Theus. So the name of the Punic city which the Romans wrote *Carthago*, was *Keir-Dagon*, or *Thagon* the *City of Dagon*, in the same manner as *Beth-Dagon*, the Temple of Dagon is written by the Greeks, Βηθ-δαγων. 1 Maccabees, c. x. v. 83.

"Αγαθος

* *Ἄγαθος* makes got or god, and not goth.
Θήρα, Fera Silvestris, makes T'hier and Deer, not Theer.

Θύρα Ostium, makes T'hu'r and Door, not Thoor.

Θείνη Cæna, epulum.—D'hin, Dinner, and not thinner.

Θεῖναι operare,—T'heinen, T'huen, or to do.

Θάρρειν audere. Saxon, Dearren. English, Dare.

The Teuts always so pronounced Th and Dh, and the observing this similarity betwixt them and the Greeks will explain many matters of Etymology.

German.	Swedish.	and English.
* T'hal	D'al	Dale
T'hole		Dole
T'hau	Dagg	Dew
i. e. ros.	D'augh	
T'haller	Daller	Dollar
T'heil	Del } Pars. }	a Deal
T'heilen } Partire. }	Dela	to Deal
T'hum	Doma } Judicare. }	Doom

* The same as the old Greek *Δαυλος*. See Strabo, Lib. ix.

	Din	Thine
T'hunder	D'under	Thunder
T'hon		Ton
		a Sound

In like manner we find the same word signifying the same thing originally, both in Greek and German, the one spelt with the dental T, the other with the dental D. Τᾶχος and *Dyke*, also Δέειν to *Tye*, so Πατήρ, φαθήρ, spoken *Vadher* or *Father*.

In like manner Πατός (from πατέω *calce-conterere*) signifies via concalcata and trita, English, *path* or *pad*. So Πτέρον (quasi πέτερον) aspirated φέθερον, *feather*.

There can be no doubt that Βόος from βῶς was pronounced with an inserted digamma, when we find it in Latin *Bovis*, and in French *Beuf*, and in English plural *Beeves*. So Ὀῖς, Ονῖς. Dr. Bentley in a note, ad Lib. 23. *Od. Horat.* says, "Υλή per digamma *Æolicum*, Υλήη, *Silva*."

The *Æolians* were said to prefix B before P. Of this we have several instances in illustration in the modern northern languages. Πυτήρ, *Æolic* Βρυτήρ, *Frænum*, a *Bride* or *Bridle*.

Ῥάκος

Ῥάκος }
and } Æolic, Βράκος, a Break or *Breach*.
Ῥάγη }

Also Ῥάμνος, Æolic, Βράμνος, a *Bramble*.

Ῥύαξ, Æolic, Βρύαξ, Rivus, a *Brook*.

Here follow three instances of B aspirated into Vaw; in the first instance spelt by Pf; in the second by V.; in the third f and v.

Βέλος, Tellum sagitta. *Pfeil*, an *arrow*.

Βρι, a particle signifying exceeding, but chiefly as prefixt, hence *very*.

Λείπειν, linquere. Saxon, Lifan. English, to *leave*.

Instances of the digamma founding as our W, or the Saxon *Ŵ*.

Ῥον, Tacitum, won. to *ωονη*, to dwell.

Ῥοαρ, Mulier, Whore.

Ῥολος, totum. Whole.

Ῥον, neuter of Ῥς. One, founded Wone.

Οἶκος Wic.

Οἶνος, vinum, Wine, and in Welsh, *Gwine*.

Ῥδωρ, Wasser, and Water.

Ῥλη, Ῥλώδης. Silva & locus Silvestris.

Weal. Weald.

Ῥφάω & υφη. Woof and weave.

In the word Κοῖλος, as used by the English in the word agnate with it, there remains

A Treatise on Picture Writing, Hieroglyphic and Elementary Writing, shewing how the first arose from Nature, the second from Art; with an Illustration of the Effects which these have had on the Deviations and Mutations of Language, in a Letter to Thomas Astle, Esq; Oct. 25, 1778.

Read at the Society of Antiquaries, Jan. 18, 1781.

S I R,

AS you acquainted me, that you was employed in making a collection of Specimens and Exemplars of all the various modes of writing practised by various nations, from the earliest to the present time; that you should * publish these in drawings,

* This collection is to consist of Specimens of the Phœnician, Chaldee, Hebrew, Etruscan, Greek, Oscan, Roman, Gaëlic, Welsh, Irish, Gothic, Islandic, and Anglo-Saxon Writing, taken from original MSS. and other ancient Documents now preserved in public Repositories, and private Collections: in the course of which is to be illustrated by examples from similar materials, The progress of writing in Italy, in France, in Germany, The progress of the Saxon and Norman writing in England, as also of the writing in the *English Language*, from the earliest times to the reign of queen Elizabeth, with specimens of the char-

drawings, copied *per factum simile*; that you should accompany this with observations on each, and with a Treatise on the whole, in which you should be naturally led by your subject to take some notice of the origin of writing; and recollecting some opinions of mine, contained in a paper read about three or four years ago at the Society of Antiquaries, you desired I would look it out and let you have it: it is with the greatest readiness and pleasure that I comply with your request, and send you the following Treatise, a new draught, extracted chiefly from that paper.

A knowledge of the methods by which mankind in primitive times realized by visible images their ideas; so as to place them under the eye, and to fix them permanent in time, is a source of curious investigation to the Antiquary.

The first efforts which men of all races, and in all countries, have made to this

ters of each sovereign, from William I. to Henry VIII. As Mr. Astle has a peculiar turn for, and great information in this branch of learning; as he has one of the best private Collections of these materials; and as being keeper of the Records, and, with Mr. Topham, has the care and custody of the State Papers; there is no person can have greater opportunities; the expectations of the world must therefore be raised for this publication.

purpose,

purpose, have been made, not as the elementary writing is, by *pictures of their words*, but by *portraits* of their ideas, and also (as well as they could describe them, by signs and metaphors) of the circumstances, relations, actions, and effects, produced and suffered in all combinations, just as they lay conceived in the mind. The very language of these unlettered people is conducted by *metaphors* and *allegory*; the transcript therefore into visible ideas could be nothing but the *pictures* of these images. This reasoning is derived from fact; let us see how the fact stands.

The American Indians do thus in fact. When they would describe their nation, their country, time, and the seasons; actions of any kind, journeys by land, or by water; war and its operations and glory, peace and its blessings; planting or hunting; they draw or paint some visible characteristic objects. They use, to designate their tribe or nation, some fixt symbol, generally taken from some animal, whose acts are descriptive of the particular character which they assume or ascribe to their tribe, their race, or nation; some visible known mark, characteristic of the sort of region which their country is. Time they describe by the picture of the sun or moon or stars: The Seasons by that of a


tree in leaf; the fall by a tree without leaf: As their journeys are mostly made along the rivers, they generally describe their journeys or excursions by a conoe; not but they do sometimes, to express travelling by land, draw a * foot; or, if by land in winter, a snow-shoe. War they commonly express by the hatchet or scull-breaker: Enemies killed by scalps, prisoners taken by withies or bands: hunting by the animals of the chase. The making peace by the burying of the hatchet, and a state of peace by any thing which denotes their planting ground, as a wigwam and corn. They ascribe characters to animals, according to their specific nature; and, to describe the characters of men or nations, they give the portrait of those animals whom they suppose as of notoriety to have such characters.

Thus, the names given to remarkable characters have always this reference; one is called the eagle; another the wolf, the fox, the tortoise, the bear, the serpent, the beaver; they make reference also to inanimate visible objects, as, the swift arrow, light, &c. &c. and these animals or visible objects become the picture-name of such person; of all which I have known instances. Those circumstances, and that general state of things (to express which

* The Ægyptians do exactly the same.

in speech they have no general and complex words), they describe by reference to visible images, bearing some ideal similitude of, or allusion to such. The resolve, or act of going to war, they express by the phrase of “ *taking up the hatchet* * , or *striking with the hatchet* ;” the termination of war, by “ *burying the hatchet* ;” a breach of peace, or a renewal of war, by “ *digging up the hatchet that was buried* ;” a state of peace, by “ *a tree in its full vegetation, giving shelter, and bearing fruit* ;” the act of condolence, by “ *wiping off the tears from the eyes* ;” an act of reparation (with them always preceded by the act of condolence) is expressed by “ *washing off the blood, and by presenting presents to heal the wound* ;” acts of oblivion, by the “ *covering the actions with a blanket* ;” acts of explanation, by “ *presents, to wipe the film off the eyes.*” Nor are these acts confined to the ideal metaphor only, they are always accompanied by the present of a blanket, linen, or wampum, where-with such act is supposed to be performed. In what I have here referred to, I speak of things of common notoriety, as generally and universally occurring in their treaties.

* This means in general the scull-breaker. The French translate it *Casse-tête* ; our interpreters translate it *hatchet*, as that instrument is now used for that weapon.

When they would write this, or represent it to the eye, what can their writing be but these images forming a picture? Exactly in this manner, in the picture-history of the Indians of Mexico, published by Purchas, you will see the state of the settlement of a town or district represented by a tree; and the reduction of that settlement by force of arms to a subject state, by that tree being cut half through. The number of notches in that principal cut either signifies the number of strokes which it suffered before it was reduced to that state, or else the proportion of tribute it was under that state obliged to pay. There is one instance where the tree is cut quite up by the roots; and one instance wherein the symbol of speech, by the representation of the tongue (as thus ) is given to a tree half cut through; by which I understand, that the picture-symbol means to express a surrender on capitulation.

You also see under the same metaphoric conception, in Plate LVIII. of Norden's Travels, a picture-representation of a treaty, on a fragment of a very singular Bas-relief, expressed by two persons negotiating by mutual reference to a tree that stands between them, on which tree is hung a tablet of an oval form, with the
ele-

elementary characters on it, as in plate C. fig. 3. By these instances the reasoning and example come hand in hand to the deduction of the fact. Observe here, that the course of the writing is in the perpendicular line, and I think should be read upwards.

In like manner some allegorick picture of this very kind would best, at least very sufficiently and compleatly, express the metaphorical representation given by the Kenunctioni, or Five-nation confederacy, of their original state of alliance with the Dutch and English. This original and first intercourse which they had with us Europeans, they express in their language by “ the arrival of a great canoe on their shores, or on the bank of some river.” The first act of their friendship they express by “ the tying this canoe safe and secure to a tree on the shore or banks.” This ideal tree they call the tree of peace, protection, friendship, happiness, &c. In their transactions and treaties they use a multitude of variations of this apologue. They call the ligature, by which the canoe is tyed, a chain. *Good faith* is expressed by “ the chain being kept bright;” and the contrary by “ this chain contracting some stain or rust;” a renewal of this old friendship by “ brightening and clean-

“ *ing this chain.*” This chain was at first, as I have said, supposed to be fastened to some tree on the banks: Afterwards, as this alliance extended itself more and more into the concerns and interests of the country, they expressed this circumstance by saying, “ *they had planted the tree of peace further back into the country.*” When they would express a more solid perpetuity of peace, they then marked that, by saying, they would “ *make the chain fast to some mountain* in the country. Finally, when this alliance became general and *national*, they then expressed this state of it, by saying, “ *that they had lengthened this chain, and had carried it up to their great council-house at Onon-daga, where they had made it fast.*” This is invariably, in their language, the picture of their ideas of the original friendship and alliance with the Dutch and English. Any new treaties set on foot with the Europeans, after they were settled in the country, they expressed by “ *fixing a place where they should light a fire,*” always to be kept alive, not an actual, but metaphorical or allegorical fire. All the changes, accidents, interruptions, &c. of this state of union and communion are expressed by the care taken in preserving this fire; by its burning bright, or by its being neglected
and

and becoming smoaky and smothered. And if they do ever renounce that particular treaty or state of union and communion, they express it by “*putting out the fire.*” I heard at the treaty at Albany, in 1754, the great * *Tianhōga* use this expression to the Dutch Commissioners at Albany, when he, on the part of the Five Nations, refused any more to treat with them. The Indians have in general some strange mystick, but undefined † notion of the pervading spirit of fire; and a communication of, or communion in, this spirit, amongst parties contracting, is with them the most solemn sacrament, of the highest form. Thus, the smoaking one common pipe of tobacco, so that all the contracting parties become participants of the same fire, is one of the most sacred acts of Faith pledged. The pipe used on this occasion is not a common one, but one prepared for the purpose, painted and ornamented always with feathers, and generally with embroidery of porcupine-quills. It is called the *Calumet*, and is lodged by the proposing party with the

* Vulgarly called, by a Christian name, *Henderick*.

† One sees this undefined idea well depicted in the specimen of Indian picture-writing given by Dr. Robertson, viz. an undefined, unfinished, imperfect figure, existing amidst flames: the hand (marking effect!) is drawn distinctly, the rest indistinct.

party agreeing, as the most solemn record of that treaty so made and concluded. This calumet is to be kept ready for smoking upon any future use made of, or any reference had to, that treaty. The Indians are very attentive to preserve this; but we, who call ourselves civilized, never think more of it. And it is generally given away as a curiosity to some person or other. I had one of these calumets, which was thus lodged with my friend Sir William Johnson, on a very solemn treaty with some of the western Indians; it was given to me after his death; he would not have parted with it. Esteeming it a singular curiosity, perhaps unique in this county, I gave it to Mr. Horace Walpole, and I suppose it is in his cabinet at Strawberry Hill. Again: as every act of communication, and every proposition made, is pledged by some token given, which token generally was *Wampum*, *Beaver*, *Blankets*, or *Deer-skins*, &c. &c. and as the importance of the proposition is estimated by the value of the token attending it, so a string, or two or more strings, or a belt of wampum, expresses the lesser or greater importance of the proposition made, or act done. On some very important occasions, these belts of wampum had some device woven in them. The great belt of wampum, given by the British Commissioners

missioners of Eleven Provinces, met at Albany in 1754, to the Five Nations, was near a fathom long, and about a hand's breadth. At one end were the figures of eleven men, hand in hand; on the other, five men also hand in hand. These two groups were connected by a line representing a Belt of Treaty. I prepared and directed the design of this belt. The Indians were much pleased with this attention to their manners; and this belt (I dare say) is kept at this day very sacred in the Council-House at Onondaga, *as a record* of that great treaty, and renewal of alliance.

Let any one recur back to the metaphoric and allegorick descriptive images by which these people thus in their language and representative actions express ideas for which they have no general words; and let him then set about to represent them by writing to the eye: whoever does so, *will naturally write their history by a series of pictures*, which will better express the ideas in which it is conveyed, than any elementary writing whatsoever could do, was he arrived at the use of such. This state of the matter is confirmed by a curious fact. In the specimen of the copy of American picture-writing given by Dr. Robertson, in his History of America, you will see many of these positions verified; particularly, you will see

two

two warriors holding a belt, and negotiating. In another place, two warriors offering presents to a third warrior. In another part you will see a symbol of the spirit of fire, described by an undefined image, rounded with rays or flames. In another part is the War-kettle boiling, with the scalping-knife laid across it, and a warrior performing some ceremony before it. In the specimens published by Purchas, you may read (if I may so express myself) many others. I have seen on deer-skins, and on Indian powder-horns, instances of this mode of picture-writing. I have been told of the same sort of picture-writing on the bark of trees, particularly the birch-tree, a tree used much by them for various domestick and field purposes, and with which also, in general, they make their canoes. I do not recollect myself to have seen any of these, at least not so as to have been struck with them; but I have been told of them by Sir William Johnson; and I will give you testimony from another person, who was perfect master of the Indian affairs; I mean the late lieutenant governor Colden. Speaking of the Indian custom, of their having a rendezvous, where the warriors assembled before they went out to war, he relates, “ that before they go from this place *, they

* Hist. of the Five Nations. Introduction, p. 7, 8.

“ always

“ always peel a large piece of bark from
 “ some great tree. They commonly chuse
 “ an oak as most lasting ; upon the smooth
 “ side of this, they with their red paint
 “ draw the picture of one or more canoes,
 “ as going from home with a number of
 “ men in them paddling, according to the
 “ number that go upon the expedition.
 “ They then paint the image of some ani-
 “ mal, as a deer, or fox, the emblem of
 “ the nation against which the expedition
 “ is designed, at the head of the canoe.”

I think Mr. Colden must have forgot to
 mention the painting also of an emblem,
 both of the nation and tribe of the Indians,
 who are engaged in the expedition, as well
 as the castle or *Home*, from whence they
 go forth ; this they never omit. He goes
 on : “ After the expedition is over, they
 “ stop at the same place in their return,
 “ and then continue the picture by a
 “ description of the event of the expe-
 “ dition ; in this part the canoes are
 “ turned towards the *Castle*. The number
 “ of the enemy killed is represented by
 “ scalps painted black ; and the number
 “ of prisoners, by a number of strokes re-
 “ presenting withies, these being the
 “ bonds in which they bind them. These
 “ in their painting, he says, look like pot-
 “ hooks. These trees (or rather rolls of
 “ bark) are the *annals* or trophies of
 “ the

“ the Five Nations. I have seen, says he,
 “ many of them ; and by them, and their
 “ war songs, they preserve the history of
 “ their great achievements.” I remember
 to have heard the following story of ano-
 ther sort of picture-writing. One of our
 missionaries making a progress in establish-
 ing the divine doctrines of the Gospel
 amongst some tribes of Indians, acquired
 thereby great influence amongst them.
 The Sachem, who was at the head of those
 tribes, found his power decline as that of
 the missionary arose. He grew jealous of,
 but was not able to oppose, the influence
 which these doctrines carried with them.
 He sought therefore to create an influence
 of the same kind. He retired for some
 time into the woods, and thence brought
 forth amongst the Indians a beggarly im-
 posture in picture-writing delineated on a
 deer’s skin ; he pretended that this was
 dictated at least, if not drawn, by the
 Great Spirit. Towards one edge of this
 picture-writing were described, by various
 groups of Europeans and Indians, all the
 evils and grievances which the Indians
 had incurred and suffered by their Euro-
 pean connections. In one part there were
 Europeans with surveying instruments,
 measuring out all their lands ; in another
 they were cutting down the trees ; in ano-
 ther, breaking up the beaver-dams ; in
 another,

another, destroying and driving all their game ; while the Indians, pent up in a corner, were starving. In the middle of the skin was pictured a great lake ; and divers groups of Europeans and Indians paddling across it ; the Europeans and those Indians who were embarked in the same canoes with them were overfet and drowning ; the Indians who kept to themselves in their own canoes were represented as making a safe passage. On the further side of this lake was a fine wooded country, full of deer and beavers, which Indians were hunting ; while their wives and children were planting maize, in peace. I have heard that he explained this lake as the passage to a future life on the other side. The Indians who adhered to their national principle, and who stood unaltered by conversion, and maintained the interest of their tribes, were represented as passing over this with safety and success to the 'Scaniaderiada, a country, on the further side this lake, which contained every good thing that gave plenty and happiness to the Indian Being. So far as this story goes to an instance of picture-writing, I here quote it : but thinking it, at the time when I was first told of it, a piece of trumpery stuff, I took little notice of it, so as not to remember exactly amongst what tribe of Indians this happened ; yet, as well

as I can recollect, I think it was some of the tribes on the Delaware or Susquehanna rivers.

Picture-writing of this same nature, and some seemingly to the very same purpose, may be seen in several examples given by * Van Strahlenberg, as existing amongst the Tartars.

These Tartar inscriptions are also so exactly similar to some found in Arabia (as given by Nieuhburg), that one might almost say they were drawn by the same hand.

I do not recollect any mention of, or reference to, any letters or writing in Homer; but of histories described by pictures there are numberless instances in tapestry, in inlaid work, in engraving and carving.

Whoever examines the specimen of picture-writing, as practised amongst the Ægyptians, and commonly called hieroglyphics; and comes fairly and soberly to the reading of them, without pre-conceived notions of their mysterious meaning, and takes them as he finds them, mere pictures of birds, beasts, fish, reptiles, and insects, Portraits of the limbs, members, and

* Description of N. E. parts of Europe and Tartary.

various parts of the human body; also of the human body itself in various attitudes of rest and action: draughts of various instruments, tools, weapons, ensigns; numerals and measures; also *characters of elementary writing mixed with them*; he, I say, that examines these pictures, will perceive at first view, that they relate merely to human affairs: that they are either * historical memorials; or register tables of the state of provinces, of their lands, people, forces, produce and revenues; or calendars of their seasons, &c. expressed by symbolic characters, determined in their form by law, from the earliest use of them, as will be seen presently †.

“ They use typical figures in the likenesses
 “ of all sorts of animals; the limbs and
 “ members of the human body; weapons,

* What I here say from conjecture of the Ægyptian Picture-writing, I can assert literally as a fact of the Mexican Picture-writing, which is in three parts. I. Historical Records. II. Register Tables. III. Oeconomical regulations. Religious and military Institutions.

Purchas, L. v. c. 7. § iii.

† Τῆς μὲν τύπης ὑπάρχει αὐτῶν ὁμοίαις ζώοις παντοποδοῖς, καὶ ἀκροτηρίοις ἀνθρώπων, ἔτι δὲ ὄργαίοις μάλιστα τεκτονικοῖς* ἃ γὰρ ἐκ τῆς τῶν συλλάβων συνθέσεως ἢ γραμματικῆ παρ’ αὐτοῖς τὸν ὑποκειμένον λόγον ἀποδίδωσιν· ἀλλ’ ἐκ ἐμφασέως τῶν μεταγραφομένων καὶ ΜΕΤΑΦΟΡΑΣ μὴ μὴ συνηληθλημενῆς, &c. Diodor. Sic. lib. iii. p. 145.

N

“ instru-

“ instruments, and especially mechanic
 “ tools; their writing is not formed by
 “ pictures of words, and combinations of
 “ syllables; but by picture-translations of
 “ the metaphors in which their language
 “ naturally flows.” “ They draw (says
 Diodorus, going on with the same ac-
 count) “ a hawk for instance, a crocodile,
 “ or a serpent, parts and members of the
 “ human body. The hawk, as supposed
 “ to be the swiftest of all birds, is made
 “ the symbol of *Velocity*. The sense then
 “ is thus transferred by these *written me-*
 “ *taphors*; to every thing which has any
 “ reference to velocity, nearly as well as
 “ if it was spoken in direct terms. The
 “ crocodile is made the symbol of every
 “ thing which is evil. The eye repre-
 “ sents watchful guard, and justice.” [I
 might here add, and is therefore trans-
 ferred by metaphor, some time with the
 addition of a scepter, to represent human
 government and Divine Providence.]
 “ The drawing the right hand open, with
 “ the fingers extended*, signifies the supply
 “ of human life; the left hand closed sig-
 “ nifies care and custody of the goods of
 “ life. The like reasoning does in like

* Shakespear uses the same metaphor:
 He had an eye for pity, and a *hand*
Open as day for melting charity.

“ manner

“ manner translate from the portraits of
 “ all other parts of the body, and from
 “ all species of instruments, tools, and
 “ weapons.” To this account I may venture to add, that under the head of ὀργανα τεχνόματα, &c. comē the representation, by these metaphors, of every species of office; distinction of civil classes; and of every occupation under these: likewise numeration and measure, as applied to length, space, weight, and capacity, in every article to which numeration or measure is applicable. As the mouth is that part by which speech is effected, lineal portraits of the mouth, in the various forms it takes in enunciation, are used (as to me appears) to mark the various elements of speech, which character I call *oral* *. As the first mode of numeration with all people is by the fingers, so we find a system of numeral characters expressly formed on this idea †. But they had other methods also of numeration, specimens of which are found on every hieroglyphick inscription. It is not only true, that the Ægyptians used elementary writing, but they had two sorts of these elements. Those which took their form and character from the mouth, I have, for distinction sake, called *oral*. The other,

* Vide Plate D.

† Vide Plate C. Part II.

which I conceive to be the secrete cypher, I have, for distinction sake, determined to call the Ogmian (the secrete writing of the Druids was so called). See specimens of this in the upper part of drawing C, as copied from hieroglyphic inscriptions.

God, the Supream Being, is pictured by the only two following symbols invariably the same; first, by a winged globe, or circle, *signifying infinity, unity, activity, and omnipresence*: secondly, by a globe or circle, through which a serpent, the symbol of life, is passant, *signifying the creative, and plastick manifestation of the first cause, animating and governing the material world.*

The precise form of all these typical characters, however they may differ in some unavoidable deviations of execution, were originally (when first used in public inscriptions) fixed and determined by universal concurrence. Since that, they are by the laws considered as thus fixt, and are required to be so portraied as they were drawn when first settled, neither better nor worse. Hence that uniformity observable in all the multitude of exemplars which are found in various parts, and are supposed to have been written in very distant

distant periods. Plato, in his second dialogue on laws, confirms and explains this point *. “ These types and figures, be they such as they are, and whatever they are, they are formed on the basis of an institution of the government of Ægypt, which directs that no sculptor, painter, or statuary, shall, under any idea of improvement, or on any pretence whatever, presume to innovate in these determined forms, or to introduce any other than the constitutional ones of his country. Hence it is, as you observe, that those forms and figures, which were formed or painted hundreds of ages past, be they what they may, are exactly the forms and figures, neither better nor worse, which are sculptured and painted at this day.”

Referring to this prefatory explanation, I will first lay before the society a collection of these *desined* and *prescribed characters*, which repeatedly occur without variation

* Ταξάμενοι δὲ ταῦτα ἄτλα ἐστὶ, καὶ ὁποῖ ἄτλα, ἀπέφηναν ἐν τοῖς ἱεροῖς· καὶ παρὰ ταῦτα ἐκ ἐξῆν ἕτε ζωγράφους ἕτε ἄλλοις ὅσοι σχήματα καὶ ὁποῖ ἄτλα ἀπεργάζονται καινοτεμεῖν, οὐδ’ ἐπινοεῖν ἀλλ’ ἄτλα ἢ τὰ παλῖα· ἐδὲ νῦν ἐξέστιν, οὐτ’ ἐν τέτοις, οὐτ’ ἐν μισικῇ συμπάσῃ. Σκοπῶν δ’ εὐρήσεις αὐτόθι τὰ μυριοσὸν ἔτος γεγραμμένα, ἢ τετυπωμένα (ἐκ ὧσ’ ἔπος εἶπεν μυριοσόν, ἀλλ’ ὄντως) τῶν νῦν δεδημιουργημένων οὔτε τι καλλίονα, οὐτ’ αἰσχίω τὴν αὐτὴν δὲ τεχνῆν ἀπειργασμένα. Plato de Legibus, lib. ii. p. 789.

in most or all of the exemplars of Ægyptian picture-writing. See Plate A. In the Plate B, I have classed some of these under the several heads to which I suppose them respectively to belong, according to what I collect from Diodorus and Plato. In Plate C are given the numerals as formed from the fingers and hands, according to the opinion of Pierius.

If now common sense, led by these examples, will examine any of the Ægyptian picture-written inscriptions, considering them, as what they are, the most ancient exemplars; as the efforts of man in the earliest, if not the first, periods of his progressive civilization, to express and communicate his ideas by visible types; as *writing by pictures, the very picture-language which he spoke*; such common-sense will be more likely to develop the meaning of these things called hieroglyphics, than refined learning will be by following the mystic *after-thoughts* of learned Myftagogues, gleaned up from physiologick philosophers.

The metaphoric symbols expressed in pictures, are the first efforts of a rude not the studied devices of a learned people: they are drawn thus not to veil and to
conceal,

conceal, but represent to the vulgar eye those ideas which they wish publickly by a publick inscription, to communicate and record.

This is the vulgate writing of all people in the first periods of their civilization. Such hath invariably been the first efforts to form memorials, records, and registers. This cannot be otherwise, for it is neither more nor less than the reflected image of the * metaphors and similies by which they spoke. Language is local, and but of the moment; when it was meant to communicate to persons distant in place, or to future periods distant in time; fixt permanent, palpable and portable, images of those ideas became necessary. Such before the invention of elementary types were the Ægyptian picture-writing, commonly called Hieroglyphics.

I have therefore always thought, and am convinced, that we mistake the Ægyptian accounts, when we call these picture-records, written on their obelisks, and other public monuments, *Hieroglyphicks*. If we mean thereby that they contain the secret mysteries of their religion, and conceive them to be mysterious symbols of

* Diod. as above.

mythology and divinity. The real hieroglyphick, the sacred and secrete writing, the ἱερός λογός, and ἱερά γράμματα, the ἀπόκρυφα γράμματα was *elementary*, or what we vulgarly call, Alphabetick. Whatever chance, or Interposition of wisdom, or whatever analysis by reasoning, may have led to the use of letters, it is certain, that they have no apparent connection with the ideas which they are meant to express; and until the *latent rationale* of these elements are taught, the writing must remain an impenetrable secret. This mode of writing by letters, invented by study, and applied to learning, and used by legislators, statesmen, and priests, became, and was truly the secrete and sacred writing, the ἀπόκρυφα ἢ ἱερά γράμματα, and *Hieroglyphicks*, of those abstruse and refined Truths, of which, while they meant to convey the knowledge to the learned, they thus kept it secreted from the people at large. The picture-writing, exhibiting κυριολογικῶς, the actual portraits or types of the ideas meant to be conveyed to the people, remained the *vulgate*. When first, and by what error, this vulgate picture-writing was supposed to be the *Hieroglyphicks*, in the sense above described, I know not; one has but to read the explanations which the most ingenious and learned

learned are able to give of it under this idea, to be convinced of the absurdity of the opinion. Horapollo, Pierius, and Kircher that learned mystigogue, give ample proof, that it is so. The great learning of the one, and the ingenuity of the others, are merely exerted to befool one's understanding.

I read in direct terms in Herodotus, that theologick theorems, expressive of the abstruse nature of the invisible spirit, and unity, were written in the ἱερα, the ἀπόκρυφα γράμματα in the sacred and secrete letters. And I find further, that the Egyptians had two sorts of the elementary writing, one of which they called the Sacred, the other the Demotick or Civil. At the same time I do find, in some express and positive instances, that these sacred writings were the elementary or alphabetic writing, being expressly said to be written from the right hand to the left, a circumstance not predicable of pictures. Herodotus, giving an account of one of the statues of Sesostris, in Ionia, says, that on a line, drawn from one shoulder to the other, were written these words (*in the sacred letters of Egypt*), “ I obtained this region by the strength of these arms.”

There

There is at this day, or at least was when Van Strahlenberg was in Tartary, an Hermetick figure, or Terminus, on the back of which, like on that of Sefoftris, there is an inscription in three lines, written in elementary characters, of which he has given an engraving. It is to be observed, at the same time, that the general run of the Tartar inscriptions is in the vulgate picture-writing. Herodotus also mentions an inscription on the pyramid of Afychin, and gives a transcript of it, said expressly to be written in letters. And again, he mentions an emblematic statue of Æphaïstus, with a label, Λεγῶν διὰ γραμμάτων τάδε, expressing in letters these words, “ *Whoever looks to me, let him be a thorough Religionist.*” Diodorus Siculus also mentions an inscription on a rock in the mountain Bagistan, inscribed by Semiramis, Συρίοις γράμμασι. But without going to books, recording instances of inscriptions written διὰ σοιχῆων, or in elementary letters, we need only refer to the obelisks, and other monuments now existing, where these are actually extant. I have made a collection of some of these, both *oral* and *ogmian*, which you see in the annexed drawings, C. and D. What has led to the idea and opinion that this Picture-writing contained the mystick and
hidden

hidden scene of their religion, philosophy, and politicks, has been the mythologick and allegorick explanation given to things, which the people, from repeated acts of veneration, had insensibly been led to make objects of adoration. The legislators, priests, and philosophers, seeing that the unveiling of the subject, as mere matter of record and human history, after they had been made objects of mystery and adoration, would destroy all mystery, and all power, took up the people's adopted prejudices, and grafted thereon Fables of Gods and Heroes, and formed an established *System of Mythology*. As the world, in its progress of civilization, grew more inquisitive and wiser, these Fables in their turn became too gross to bear in their direct sense, the light of common sense. The legislators and priests began *then first* to resolve all, by mystical Enigmas, into a *System of Physiology*, expressive of the Being, Attributes, Manifestations, and Operations of the first active cause of all things, acting on inert and passive matter. The Platonists, and more especially the Stoicks, were the first authors of *these divine Romances*. Chrysippus *, in libro secundo, vult Orphei, Musei, Hesiodi, Homeri, fabellas accommodare ad ea, quæ ipse, in

* Cic. de Nat. Deor. lib. I. sect. 15.

libro primo de diis immortalibus, dixerat :
 Ut etiam veterrimi Poetæ, qui hæc ne suspicati quidam sunt, Stoici fuisse videantur. Quem Diogenes Babylonius consequens, in eo libro, qui inscribitur de Minerva, partum Jovis, originemque, virginis, ad *physiologiam* traducens, disjungit a fabula.

When these Picture-writings, at first mere human records of the affairs of man, expressed by ectypes, delineated from the metaphorick and allegorick phrases of the very language which they spoke, were first wrought into *Fables of Mythology*, and by after refinements, into *divine romances of Physiology*, it was natural they should, by those who thus explained them, be called the Hieroglyphicks, or sacred Writings. Whereas, in fact, they were originally only the vulgate; while the elementary and letter-writing were the *ἱεραὶ καὶ ἀποκρίφα γράμματα* mentioned by Herodotus, and Diodorus Siculus.

That there were letters in use prior to the time generally assigned to them; and that they existed amongst a people, from whom, those who were called the inventors of them, learnt them; may be assumed as a clear and decided fact, on the testimony of Diodorus Siculus *. The

* Lib. V. fol. 340.

elementary writing by letters, he says, was known, as being amongst the Syrians; that the *Muses* however invented them. Now, it is very natural for a Greek writer, or a Grecian transcriber, if he had met with the word *Moses* *, to convert it to *Musis*. From *Moses* it is most likely the Syrians received their knowledge of letters; be that as it may. Diodorus says, that from the *Syrians* the Phoenicians received this invention and practice; that the Phoenicians, *making some alterations* in the forms of the characters, when they communicated them to the Europeans, they were called Phoenician. He says, in † another place, that the letters were at first called in Greece Phœnician; but that being adopted by the Pelasgi, they were after that called Pelasgic; and that the Thracian Poets wrote in these letters.— That there were letters amongst the Syrians, as here mentioned, in a period prior to what is heard of them amongst the Phœnicians, appears from the story of Semiramis, ordering an inscription to be engraved on some rocks of the mountains Bagiston. Συρίοις Γράμμασι. The testimony of this story to the early existence

* So called from *Mos* water, referring to the circumstance of his being found there.

† Lib. iii. fol. 201.

of Syriac letters, is equally of force, whether the story of Semiramis be true or not. The reference to Syriac characters is rather a stronger proof of the actual existence of such letters than in use, if the story of that particular use of them should not be true; for then it appears, that the known and undoubted fact of the existence of Syriac characters is referred to, in order to give support to a fabulous tradition of Semiramis, and her inscription.

The Egyptians had letters prior to the erection of the obelisks, and of two if not three sorts (besides their picture-writing). They used, says Herodotus *, two sorts of letters, the one they called the Hiera, or Sacred, the other Demotica, or Civil; which also he contrasts with the elementary writing of the Greeks, when he says, that the Egyptian letters were written from the right to the left; whereas the Greeks, on the contrary, wrote from the left to the right. The invention of this elementary writing is referred to the very earliest periods of their history, as it is ascribed to Phiot, Thoth, or Taut, ὃς εὗρε τὴν τῶν σοιχείων γραφὴν.

Clemens Alexandrinus, who must have understood this matter, living on the spot,

* Lib. ii. c. 36.

gives an explicit account of it in the fifth book of his *Strómata* *, of which I venture to give the following translation. “ Those
 “ who receive their education amongst
 “ the Egyptians, learn in the first place
 “ the method of the Egyptian elementary
 “ writing, or letters, which is called the
 “ *epistolary* writing : Secondly, the *sacer-*
 “ *dotal*, which the hieroglyphists, the
 “ priest-scribes use : Lastly, as the per-
 “ fecting of this part of education, the
 “ *Hieroglyphics*. This consists of two
 “ methods ; the one is written by ele-
 “ ments in direct terms ; the other is
 “ symbolic : The symbolic may again be
 “ divided into two kinds ; the first is a
 “ picture or direct portrait of the matter
 “ or thing intended to be described ; the
 “ second is written by metaphorical re-
 “ presentations. This is sometimes alle-
 “ gorized by Enigmas.” If my trans-
 lation be just, it describes the fact as it will
 be found to have existed. It describes
 first the two generical distinctions ; the
 writing by elements or letters, and the

* Αὐτίκ' οἱ παρὰ Αἰγυπτίους παιδεύομενοι πρῶτον μὲν πάντων τῶν Αἰγυπτίων γραμμάτων μέθοδον ἐκμανθάνουσι τὴν ἐπιστολογραφικὴν καλεσμένην· δεύτεραν δὲ τὴν ἱερατικὴν, ἣ χρῶνται οἱ ἱερογραμματεῖς· ἕξταται δὲ καὶ τὴν τελευταίαν τὴν ἱεροφυλικὴν, ἧς ἡ μὲν ἐστὶ διὰ τῶν πρῶτων στοιχείων κυριολογικὴ· ἡ δὲ συμβολικὴ. Τῆς δὲ συμβολικῆς ἡ μὲν κυριολογεῖται κατὰ μίμησιν· ἡ δὲ ὡς περ τροπικῶς γράφεται ἡ δὲ ἀλλοτρὶς ἀλληγορεῖται κατὰ τινὰς ἐνιγμὰς. Clemens Alex. Lib. 5. Stromaton.

picture-writing ; and next the three species of each genus. First, the writing for common business (the demotic, as Herodotus calls it), next the court-hand, that which the sacerdotal Scribes used ; and lastly, that which was used in the sacred engraved inscriptions, which is to be seen to this day on the obelisks, and other public records. The first, the Symbolic, was applied in actual portraits of the thing to be described ; the Second used, as Plato expresses it, metaphors for descriptions ; the Third, which allegorized these pictures into ænigmas, which the original writers, *ne suspicati quidem sunt*, I have already explained, as the mere physiologic commentaries, the divine romances, of the learned priests : the picture-writing was but of two kinds, the Portrait and Symbolic.

The learned authors differ much about this passage. Dr. Warburton has written an ingenious (but not precise) commentary on it. Angelus Maria Bandinus * has quoted it, and given an explicative translation ; but to my apprehension (and therefore I give it) the above simple and literal

* De obelisco divi Cæsaris Augusti è campi Martii ruderibus nuper erato Commentarius, 1750. Cap. v. p. 16.

translation precisely gives the fact. Several of the letters of the first species of the elementary writing, may, I should guess, be found mixed amongst the Coptic vulgate. If there were any of these sacerdotal books, registers, or records, which several authors mention as written on tablets of wood, stones, or tiles, or in volumes of papyrus; and as kept sacred and secreete, in the adyta of their temples, there might be hopes of recovering some specimens of these hieroglyphick elements. The elements of the hieroglyphick writing still remain in full perfection on the obelisks, and every other Egyptian inscription, to point out which fact is one of the principal purports of this paper. Both the species of the picture-writing may also be easily distinguished, as separately used, each to its own particular purpose, and in its own particular use. In plates B, C, and D, I have endeavoured to class the two species of the portrait and symbolick writing.

Dr. Warburton was the first writer who clearly and explicitly explained the nature of this picture-writing, as the natural first efforts of writing; *calculated to communicate, not to conceal*. He has by close and clear reasoning on the evidence, which his learning supplied, decidedly proved

this proposition. As my ideas however, on this subject, although they ran nearly parallel to his, do not altogether coincide with them, and, from the opportunities which I have had of considering this practice in fact, go somewhat further in explanation of it, as also differ somewhat on the point of the coeval existence and use of the elementary writing, together with the picture in the earliest times, which he has not touched upon; I shall here continue my own plan.

Herodotus * in Euterpe, chapter 125, mentions, that an account on record was written on one of the pyramids in the Ægyptian letters; of the amount of the expence in radices, onions and garlick, for the workmen employed in building it.

If the picture inscriptions found on the obelisks, and on the walls and gates of the oldest temples, and on the bases of statues, are supposed to be the oldest specimens now remaining, as undoubtedly they are, of this method, the reader will find the elementary letters always mixed with it. I have endeavoured in plate D to class these elements, or *στοιχεῖα*, to their

* Σερμῶνας διὰ γραμμάτων Αἰγυπτίων ἐν τῇ Πυραμίδι ὅσα ἐς τὴν σαρκαίων καὶ κρόμμυα καὶ σκόρδα ἀδαισιμῶς τοῖς ἐργαζομένοισι.

ſpecifick enunciation. I have in the ſame alſo given ſome inſtances of theſe elements appearing plainly to be joined in words. In plate C, part III. fig. 3. I have given an exemplar from a very curious hieroglyphic inſcription taken from Norden, plate LVIII. wherein the courſe of the letters and reading is in the perpendicular line, and I think upwards as the tree grows. And in figures 1 and 2 of part III. in the ſame plate, I have gone further, and give two exemplars of actually legible words in *Etrufcan letters, exactly the ſame as the letters or elements found on the Ægyptian inſcriptions.* Montfaucon, book IV. c. 9. plate 28, English edit. exhibits a Roman aſſis with a Janus bifrons on one ſide, and a club on the reverſe, with an inſcription *, written in letters exactly the ſame as thoſe found on the obeliſks and other Ægyptian inſcriptions. Montfaucon thinks it not intelligible, but ſays at the ſame time, that P. de Molines reads it from the right, to the left *Odicela.*

In the third volume of the Supplement, B. IV. c. 7. plate 69. English edit. he gives a † quincunx belonging to the king's cabinet, which he ſays, “ *has an Etrufcan*

* Vide plate C. part III. fig. 2.

† Plate C. part III. fig. 1.

“ word round it, which I cannot read.” This is plainly likewise read from right to left, *Odieia*; here again, I may assert that every letter in this inscription may be found amongst the hieroglyphicks.

It is certain, that in the books ascribed to Moses, reference is made to histories prior to the writing of those books. A learned and very ingenious writer, in a book * printed and published at Brussels in 1753, *avec privilege, et approbation*, has discriminated, and arranged the several memoirs from which the book of Genesis was, as he supposes, literally transcribed. The arguments by which he supports this opinion are striking, if not convincing, taken from the repetitions, and dislocated anachronisms; from the specific use of the word *Elohim* in one of these, and the specific use of the word *Jehovah* in another, as applied to express the Supreme Being. Having discriminated these several Memoirs, he composes and arranges the whole of the book of Genesis into four columns, in which each narrative is kept separate, and yet so, as to stand ranged in the series

* Such is the title page; but I have been informed, that this was so far from true, that, instead of being printed at Bruxelles, under the licence and approbation of the government of that country, it was actually secretly printed at Paris.

of order, and in the place where it was inserted. By these means he accounts for all the repetitions, the derangements of the Narration, and the anachronisms which have been made matters of objection against this book. By an attempt to prove, that the word *Elohim* was the only word used by the Patriarchs; and that the word *Jehovah* was never applied till used by Moses; he shews, how all the difficulties, arising as objections from the respective use of these two words, are removed; by referring the first to the ancient Memoirs of the Patriarchs, and the latter to the compositions of Moses; he adduces many learned proofs, that writing by letters was in use and practice before the time of Moses. I could not avoid giving here this account of this very curious book; but the only use I make of it is in confirmation of what I think a fact, that writing by elementary characters or letters was a practice in *Ægypt* prior to the time of Moses. At the same time, however, that I do not think that Moses was the inventor of writing by letters; I think the state of the fact is, that he, from the principles, and nature of his Divine Legislation, forbidding all picture-writing, first rendered *these, hitherto secrete* elements of writing, *the vulgate*.

Moses, who was intimately instructed in the learning of the Egyptians, must perfectly have understood all these different methods of writing; and having seen how the picture-writing in process of time led both to the gross and the mystick idolatry, expressly and absolutely forbid the use of it, and was the FIRST MAN, OF THIS OUR WORLD, WHO USED THE ELEMENTARY OR ALPHABETICK WRITING AS THE VULGATE WRITING. From the Hebrews it soon spread amongst the Syrian nations bordering on them; and from these the Phenicians soon after learnt it, and communicated it to the people of Europe and Africa, with whom they had commerce; and thus the use of the elementary characters spread over the whole civilized part of our hemisphere. The progressive copying, by other nations, of the first elements used by the Hebrews, is very minutely and distinctly explained by Dr. Bernard, in his table of Alphabets, re-published by Dr. Morton.

As I have, in my account given above, explained, how first the picture-writing arose into use; and as I have here suggested how, from whence, and by whom, the elementary, or alphabetic writing (having been amongst the Egyptians long the
secret

secret and sacred writing) was brought forward into vulgate use; it may perhaps neither be disagreeable, nor irrelevant to the purpose of this letter, to add an explanation, according to my ideas of the origin of letters, and to give the reasons, as they appear to me, of the forms which were given to these letters.

When I first * discovered (I believe I was the first discoverer of it) the inscription in the cæmety of the great *Irish Pyramid* or barrow at New-Grange, I examined every alphabet and specimen of elementary writing which I could meet with, under trial to find out something explanatory of it. Those which I did find similar to it (allowing for imperfections of execution) did convince me that the characters were numerals in Phœnician or Æthiopian elements: and that the inscription, now part of the materials only of which this barrow was formed, is a fragment belonging to something much older than the barrow. In the course of this search amongst the Ægyptian hieroglyphics, as they are called, I saw, or thought I saw, lineal portraits of the

* Vide the Memoirs of the Society of Antiquaries at London, Vol. II. p. 258.

forms which I had observed (as may be read in N° 1.) the organs of speech to take in the *enunciation* of the vowels, and in the combined act of *articulation*. I examined these by comparison of the act of enunciation and articulation, in repeated experiments, copying *lineally*, and (if I may say so) *literally*, the forms which the organs of speech take in these acts: then comparing these with the various elementary characters as I did and do still conceive them to be, which are intermixed in all the specimens of Ægyptian inscriptions, I found in Kircher, Pocock, Norden, Mountfaucon (and I find since in Nieuburh) lineal * characters (intirely unnoticed by those who pretend to explain the hieroglyphics) which corresponded exactly to the experiments which I had made. Compare therefore first the drawings in the plate (D) with the description

* There is a very singular and curious specimen of elementary writing in plate 28, N° 61. of the *Theſaurus Hieroglyphicorum* a *Muséo Johannis Georgii Herewart, ab Hogenberg, 1607.* I have not found this in any other collection of Hieroglyphics; and as the book is a very scarce one, I have given a copy of this in plate D. Several of the characters are exactly the same as those repeatedly found on Ægyptian inscriptions, except one, which I find in a Chinese vocabulary, or word-book, and have therefore put in plate C. part III. Chinese column.

of the forms of the mouth in pronouncing the vowels. A may be described as formed by an elevation of the upper part of the mouth, and upper lip somewhat angular, the point of the tongue appearing. V or U sounded *ew* is expressed and may be described by a lowering the under part of the mouth, with a like angular form of the under lip somewhat projected. E or ε by a parallel opening of the mouth with a curvilinear contradiction of the under lip. O may be described by a circular or oval aperture of the mouth and lips. I, may be described by a right line descending perpendicular or at right angles with the mouth, as representing the perpendicular stroke of the under jaw in enouncing that intonation or vowel. As to the variations arising from the different dwellings of the voice on the broad or minced *Au* and *aa*, on the long or short E, I, O, or V. that does not enter into the analysis of the first elements to which the indivisible sounds are reducible. Examine next the lineal or literal characters which I have collected together in plate D, and which characters I suppose to be *σοιχῆαι*, elementa or *γράμματα*, and which being supposed by me to be lineal representations of the forms and actions of the organs of speech, I call ORAL.

I have

I have further ventured to set some of these elementary characters arranged in a line with some of the known and decided letters of the ancient alphabets; not that I dare presume to say that these so arranged are decidedly this or that letter; but merely to put them forward by suggestion to the more accurate examination of literate and learned scholars, who understand the ancient eastern languages: The reasons for my thus arranging them to this or that letter derive simply and solely from my idea of their corresponding more or less to some lineal forms which I had in my experiments designed, and of their representing the *contours* of the organs of speech enouncing this or that element.

The characters which I suppose to be the cypher or Γράμματα ἀπόκρυφα, I have given in plate C, part I. I call these *Ogmian*, from their being precisely the same as the secrete characters used by the ancient Irish, and called by them the *Ogham*, which colonel Vallency has, by a combination of erudition and knowledge peculiarly his own, so accurately explained.

Whatever was the real name in the Egyptian language of the author of the Art
of

of Writing, he is called differently by the people of nations foreign to Ægypt; the Greeks call him Thoth and Teute; the ancient northern people of Europe called him *Ogham* or *Och-am*, that is, *great Ham*, rendered by the Latins *Ogmius*. As I am rather disposed to believe this to come nearest to the real name of the person alluded to in this history, I have called the elementary characters of this secrete writing the Ogmian.

Colonel Vallency acquaints me, that he has found a description of the *Ogham* given in Irish verse in the antient bard's premiere; and that the course of the writing is in the perpendicular line; I have suggested to him an opinion, that if so, *it should be read upwards*, as in addition we read the Arabic figures; which matter had before struck me as appearing to be the case of the Egyptian-writing, in many instances; it is a certain fact that the Egyptians observed a different arrangement in writing the letters from that which the Grecians used. Herodotus says, that they wrote, as he conceived it, from the right to the left; while the Egyptians affirmed that, although it was the reverse of the Grecian method, yet it was from the left to the right; I know no way of steering
betwixt

betwixt these two contradictory opinions, but in the perpendicular line, which, as I say, seems to be the order of ranging the elementary characters, in several instances in the exemplars, given by Kircher, Pocock, Norden, Nieuburh, and Mountfaucon. I throw this out, however, merely for suggestion to examination.

This paper only means to adduce some probable account of that analysis which gave to the first written elements that peculiar form which they seem to have originally taken. It means also to explain those reasons by reference to those forms as mixt amongst Egyptian hieroglyphic or picture inscriptions now existing.

Not being myself of literature equal to the task, this little treatise wishes to excite and call forth the industry and ingenuity of those learned men *who are* to make the experiment whether the original Ægyptian elementary writing may not be found out, and to state the want of information in this point as a *desideratum*.

As this art of writing by elements, almost as soon as it was known, and used as the vulgate writing of one nation, became the vulgate writing of the nations adjoining, and spread itself over the whole northern and western civilized part of the
 Ægean

Ægean hemisphere, it seems strange, and until explained, almost unaccountable, that it should remain so long secreted in Ægypt, that people continuing, even after it was vulgate elsewhere, to use the picture-writing as their vulgate.

A very curious passage in Plato, written expressly in resolution of this question, not only fully explains the reason, but will suggest to the attentive and philosophic antiquary many other ideas worthy his most diligent research on this subject.

Thoth or Phioth, who is described as the author of many discoveries and inventions useful to mankind, never rested or stopt until he had brought them to that perfection which rendered them *fit for practical application to use*; when he had carried any of his discoveries or inventions to that point, he laid them before Tham [Cham or Ham] who was at that time king of all Ægypt, and held his residence at Thebes. The sole point of view in which this wise king considered them was their applicableness and *utility to the good of man*. Those which upon mature deliberation and examination were proved capable of good use, he ordered to be communicated to his subjects, that they

should

should be instructed in these arts : Those, of whose beneficial use he did not receive uncontrovertible proof, he rejected, and prohibited from being communicated to vulgate use. “ If I was (saith Socrates in “ Plato) to discuss all the arguments on “ all the arts and inventions thus ex- “ amined, I should engage myself in a “ long and tedious disquisition ; but on “ the subject of the invention of written “ elements, the following is the substance “ of what I heard in Ægypt. When Thoth “ came to the explanation of the use of “ this invention. This learning (τέτο “ τὸ μάθημα) : says Thoth, O king, will “ render your Ægyptians wiser, and of “ more retentive and decisive memory : “ The king examining this invention on “ these two points, answered,—My most “ ingenious and inventive Thoth, we are “ so formed, that one man is more pecu- “ liarly apt and active in the invention of “ arts and works, while another is better “ calculated to judge what benefit or “ damage may derive from the application “ of them to use. You the father of this “ invention of letters, have been led by “ your benevolence to conceive of their “ use contrary to what would prove the

* In Phædro Platonis.

“ fact in practice. This *written learning*
 “ from an inaccuracy and relaxness in the
 “ application of memory *, which would
 “ be a natural consequence of it, would
 “ be more likely to produce oblivion or a
 “ cessation of the act of memory, than aid
 “ and strengthen it. For the mind trusting
 “ to these alien types existing externally,
 “ would be less careful to fix and re-
 “ member the real ideas internally. You
 “ may therefore be said to have invented
 “ a proper remedy for records, but no aid
 “ or benefit to the application or exercise
 “ of memory.

“ Upon the other point of this inven-
 “ tion being a vehicle of wisdom or know-
 “ ledge, I am afraid it would be more
 “ likely to communicate and convey down
 “ to your disciples, *opinions in learning*
 “ rather than *truth in knowledge*. For these
 “ disciples being by the means of this ve-
 “ hicle, in a situation to receive communi-
 “ cation of many matters without the su-

* Cæsar speaking (Lib. vi. § 14. de Bello Gallico) of
 the Druids prohibiting their scholars from committing their
 learning and doctrines to writing, although in all other
 matters they applied writing in common use, gives the very
 same reason for it. Id mihi duabus de causis instituisse vi-
 dentur; quod neque in vulgus disciplinam efferri velint;
 neque eos qui discunt, literis confisos minus memoriæ
 studere, quod fere plerisque accidit, ut præsidio literarum,
 diligentiam in perdiscendo, ac memoriam remittant.

“ perintending

“ perintending and guiding hand of in-
 “ struction; they, that is the bulk of them,
 “ would fancy themselves to have acquired
 “ a just conception of many things, and
 “ to have knowledge, where they have
 “ wholly misconceived and are intirely ig-
 “ norant; and will become the more obsti-
 “ nate and impractical as they will be mere
 “ opinionists instead of wise *.” Thus far
 is Socrates in Plato supposed to give in
 this historic narrative the actual reasons
 adduced by Tham or Ham; he may how-
 ever, truly be supposed to give the general
 reasons assigned by the politicians of Egypt
 for not suffering the elementary writing
 to be in use, and for continuing the picture
 writing so long after the elementary was
 become the vulgate in every other country.
 These reasons derive from deeper sources

* Πολλά μὲν δὴ περὶ ἐκάστης τῆς τέχνης ἐπ’ ἀμφοτέρωθι Θεῶν τῶ
 Θεῷ λέγεται ἀποφύνασθαι ἂν λόγος πολὺς ἂν εἴη διελεῖν. Ἐπειδα
 δὲ ἐπὶ τοῖς γράμμασιν ἦν. Τῆτο δὲ ὁ Βασιλεὺς το Μάθημα (εἶφη ὁ
 Θεῷ) σοφώτερος τὰς Αἰγυπτίους κ) μνημονικώτερος παρῆξει· μνήμης
 τὲ γὰρ κ) σοφίας φάρμακον εὐρέσθη. Ὁ δ’ εἶπεν, ὦ τεχνικώτατε Θεῷ
 Ἄλλος μὲν τεχνεῖν δυνατὸς τὰ τῆς τέχνης, ἄλλος δὲ κρίναι τίν’ ἔχει
 μοῖραν βλάτης τε κ) ὠφελείας τοῖς μέλλοισι χρῆσθαι, κ) τὸν Σὺ,
 πατὴρ ἂν γραμμάτων, δι’ εὐνοίαν τῆναντίον εἶπες, ἢ δυναταί. Τῆτο
 γὰρ τῶν μαθόντων λήθη μὲν ἐν ψυχαῖς παρῆξει, μνήμης ἀμελειησία
 ἂν τε διὰ πῶσιν γραφῆς ἔξωθεν ὑπ’ ἀλλοτρίων τύπων, ἐκ ἐνόθεν αὐτῆς,
 ἰφ’ αὐτῶν αἰαμνησκομένους, ἔκων μνήμης ἀλλ’ ὑπομνησῶς φάρ-
 μακον εὐρες. Σοφίας δὲ τοῖς μαθεταῖς δόξαν ἐκ ἀλήθειαν πορίζεις·
 πολυήκοσι καὶ σοι γινόμενοι ἀνευ διδαχῆς, πολυγνώμεναι εἶναι δόξου-
 σιν ἀγνώμεναι, ὡς ἐπὶ τὸ πλῆθος, ὅτις, κ) χαλεποὶ ξυνοῖται· Δοξό-
 σοφοι γιγονότες ἐνὶ σοφῶν. Platonis Phædrus.

of wise policy (taking in at the same time the foundation of their religious establishment) than will perhaps strike any of us moderns, whose prejudices run a contrary way to an extreme in communication of the art of reading and writing. After this, Socrates goes on to give his own reasons, derived from the principle universally adopted by the ancient philosophers and politicians, that the higher parts of knowledge, either in philosophy or politics, when made vulgate, are most likely to be misunderstood, and to be perverted. When those things which may be spoken openly, and those which cannot with safety be vulgately spoken, are communicated in common to all indifferently, to those who know, and to those who are no proper judges; confusion certainly, if not danger, must be the consequence. These sentiments of Plato, if he may be supposed to understand the subject, do not only prove the fact, *that the picture-writing was the vulgate in Ægypt*; but also give the grounds on which the wisdom of the Ægyptians always kept a *secrete elementary writing* for the communication of those things which were fit only for the esoterick knowledge of the few, while

for public communication they continued to use the picture-writing as the vulgate.

I have the honour to be,

S I R, &c.

P. S.

March 18, 1781.

Since this paper hath been read at the Society of Antiquaries, I heard of a book, laying it down as a position, that persons born deaf might not only understand those who spoke to them, but might in their turn acquire a certain use of speech, from a decided knowledge of the forms of the mouth and actions of the tongue, which are to be discerned by the eye, and to be learnt without the use of the ear. This book is titled, *Alphabeti vere naturalis Hebraici brevissima Delineatio—quæ simul methodum suppeditat juxta quem, qui surdi nati sunt sic informari possint; ut non saltem alios loquentes intelligant, sed et ipsi ad sermonis usum perveniant — in lucem edita.*

Par F. M. B. ab Helmont.

Typis Abrahami Lichtenthaleri, A. D. 1667.

Being told that this book explained the formation of elementary characters of writing from the forms of the mouth, and the acts of the organs of speech, much in the same way as I had done, I was very desirous of seeing it: it was in the possession of a friend, of whom I borrowed it; but found myself disappointed *. The author supposes (as if the tongue was the only acting organ which articulated into nations) that the letters or elementary characters must originally have taken their form in the sacred writing of the Hebrews, from the inflexions and contortions of the tongue, in respectively pronouncing each element. These, says he, indeed, do no longer exist, and therefore he finds himself at full liberty to form, and does form, his visual visionary speech, his *vox picta* from imaginary inflexions, and contortions of the tongue, which taken in profile, gives the forms of his alphabet. In

* Sacra scriptura Hæbræorum aliquam habuit cum *linguæ humanæ* motibus similitudinem. . . . *Vox picta* sic primitus instituta est, ut sicut loquendi organa internum animi characterem auribus, ita illa eundem per loquendi organa expressum oculis subjiciat. Primarium autem loquendi organon lingua est, e cujus vario motu atque allisu loquela oritur. Quid ergo, si loquela pingenda est, aliud pingi poterit quam varia ejusdem motio et configuratio veræ earum literarum figuræ non amplius in usu sunt apud Judæos.

the first place, there are near two-thirds of the letters which are not articulated by the tongue. In the next place, as these forms of the tongue do only give the shapes of his supposed letters when it is seen in profile, I do not conceive how these forms are to be rendered visible, unless the speaker hath, not figuratively, but literally, a *lanthorn jaw*, or unless the cheek is cut away to lay it open by a section; and in fact, in the specimens which he gives of these his letters, he gives the drawing of a man's head so dissected. He gives, however, some drawings of the openings of the mouth in front, as in the act of pronounciation, which are nearly the same as I have given of the mouth enouncing the vowels; but he does not define these forms to those specifick acts. I could not but think right to take notice of this matter in this post-script.

Feb. 2, 1782, having heard of the Rev. Mr. Woide, under whose care the Oxford edition of Labroze's *Lexicon Ægyptiaco-Latinum ex veteris illius linguæ monumentis, &c.* was published; who also published Scholtz's *Grammatica Ægyptiaca*; I had this day the pleasure of seeing him. I experienced in him that openness and
liberality

liberality of communication which characterizes all men of real learning; he explained to me the history and nature of these works, which are confined to the modern Ægyptian language, usually called the *Koptic*, or Γουπτικ; he explained to me a matter very little known, but of which he is perfect master, the dialect of Upper Ægypt, called by Jablonk, the *Sahidic*, but which he more properly calls the *Thebaic*: he is of opinion, and hopes to prove, that although the writing commonly called the *Coptic* is mixt, especially since the time of the Ptolemies, with Greek letters; yet there are even in the most corrupt some, and in the higher manuscripts many, letters which were originally used in the epistolographick writing of the ancient Ægyptians; that there are numbers of words, especially in the Thebaic dialect, which are pure Ægyptian. Animated by a genuine ardor in the pursuit of knowledge derived from very uncommon learning in this branch of science; conducted by particular information in the history of these researches and discoveries, and assisted by very extensive communications on the subject, he is in pursuit of the revival or restoration of the knowledge of the Ægyptian language; and if he is supported and assisted as he ought to be,

it may not be despaired of: he also communicated to me a little dissertation, which he is writing, on the Ægyptian language, the second section of which, not yet finished, goes to the ancient language and hieroglyphicks. I communicated to him the tables wherein I have delineated the *symbols* and *elements* found in the hieroglyphick inscriptions. He is clearly of opinion with this paper, that the elementary writing stands in the inscriptions on the obelisks and other remains of Ægyptian antiquity: he has not yet gone into the analysis of that subject; whenever he does, that end, which I, through deficiency in a knowledge of the oriental languages, must have despaired of, his acquaintance with them, combined with his special knowledge of the Ægyptian manuscripts, may hope to attain. If the few unconnected words and names ill spelt, and deformed with prefixed and terminating additions, should luckily contain all or most of the elements, they may be picked out so as to become a *key* to deciphering the ancient inscriptions. *What I have done in commencement of this discovery*, goes but to a few; and these are described by guess and conjecture on comparison, rather than in any certain line of analysis. *The want of information in*
the

the Ægyptian language and sacred writing is so great a defect and DESIDERATUM in learning, that making, as I do in the treatise to which this paper is an appendix, a review of the study of antiquities, its desiderata and discoveries, I could not avoid taking this notice of Mr. Woide's very learned and laborious researches, which promise so fair for discoveries in this point. Whenever he shall publish his learned Dissertation on the Ægyptian Language, the world will see much leading matter; their curiosity must be raised in expectation of it, and I hope their industry and exertion will be excited in proportion, to assist in the pursuit.

Since the paper above was read at the Society of Antiquaries, I received a letter from Mr. Raspe, expressing a desire to communicate some ideas which he had conceived on this subject of the hieroglyphics, as also his views in a project he had formed, could he be enabled to effect it, of going to Ægypt to investigate these matters on the spot. I have seen him on this subject, and, as far as I am a judge, his ideas have a much more conformable analogy to the nature of picture-writing, refined to a

symbolic transcript of mythological doctrines; and bids fairer, if this be the right idea of the right line, to give explication of this involved mystical subject, than any thing which I have read or heard from others.

The hieroglyphick writing, according to his scheme of it, in the elements and composition of which he includes both the pictures and lineal diagrams unitedly, is like *Algebra*, a *symbolic written language*; containing, and expressive of the general terms of abstract propositions, whose relations are marked by lineal signs.

To give some sketch of what I mean, when I explain Mr. Raspe's idea by comparing it to Algebraic writing, I will quote Mr. Professor Saunderson's Definition of Algebra, that it is "*The Art of computing by Symbols,*" also Sir Isaac Newton's expression, where he speaks of the algebraic language; "è sermone Latino vel
 " alio quovis, in quo problema proponitur,
 " translatio fiat in sermonem (si ita loquar)
 " algebraicum, hoc est, in characteres qui
 " apti sunt ut nostros *de quantitatum re-*
 " *lationibus* conceptus designent."

This

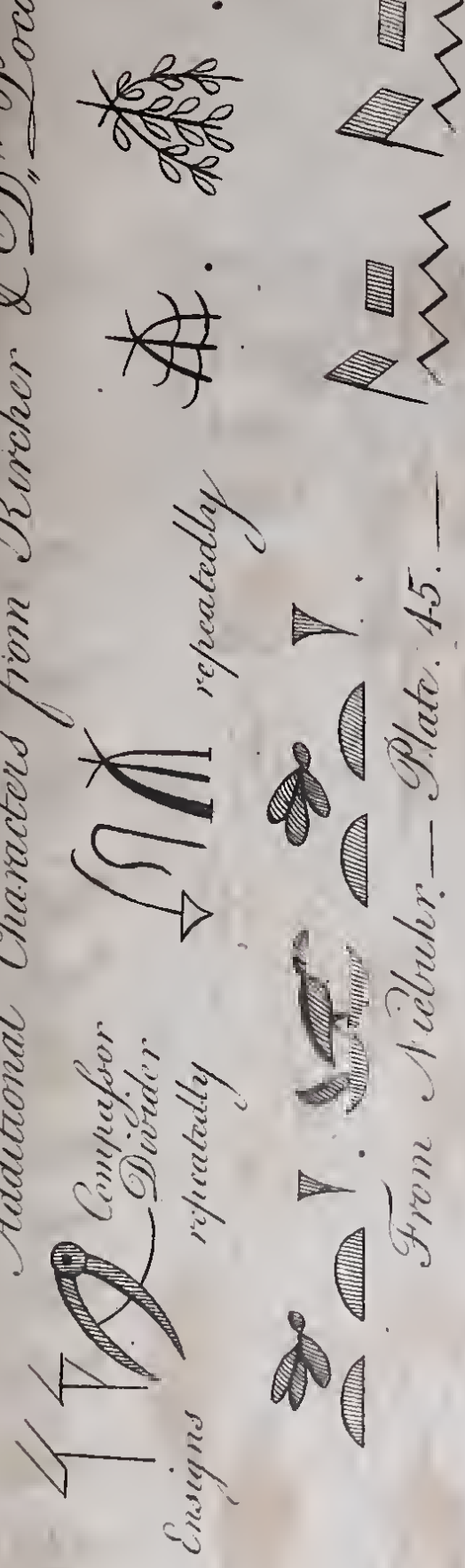
This idea differs from the simple notion which I have adopted of considering the Ægyptian inscriptions, as being in part merely and distinctly the ordinary *vulgate* picture-writing as used by other nations; and in part, distinct also, the elementary writing, used as the secrete writing; in which I think I have shewn that some of the letters may be ascertained by comparison with the decided elements of writing, or letters of other languages. Mr. Raspe's opinion, however, if pursued to its full extent of refinement, may, for aught I know, suit the abstruseness of this Ægyptian learning better than mine; and I wish that this learned and very ingenious, but very unfortunate and distressed man, was enabled by the assistance of the generous to pursue this research; as also many others, in which he hath made great progress; particularly his analysis and explication of our *Dóm's Day-book*. I wish that by some method of subscription he could be engaged and supported in carrying into execution a work for which his practical knowledge in the Saxon, Deutsch, French, and English languages, as well as his general grammatical learning, peculiarly fits him; viz. an etymological Dictionary of our language, showing its
agnation

agnation with, and its derivation from, the original general language of northern Europe; as also its deviations and dialects as they arise in part from variations in pronunciations, and in part from the vague and indecisive use of the elementary characters in writing.

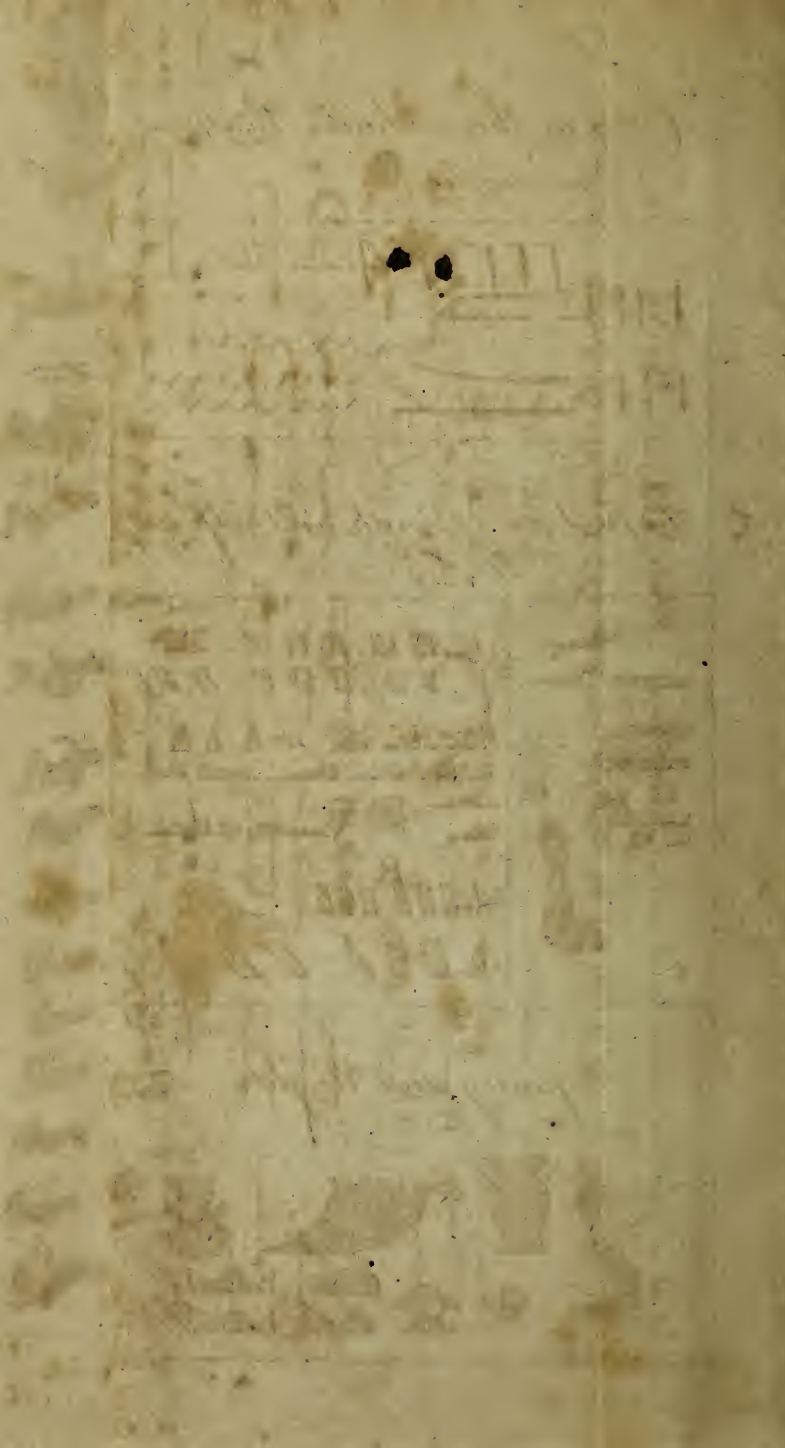
The following Table is copied from Plate XLI in Niebuhr's Travels to Egypt & Arabia. Collection of general Characters & Figures, such as generally & repeatedly occur in Egyptian Picture Writing. Selected by M. Viebner.



Additional Characters from Kircher & Dr Pococke.



From Niebuhr. — Plate. 45. —



THE HISTORY
OF THE
CITY OF
NEW YORK

FROM THE
FIRST SETTLEMENT
TO THE PRESENT
TIME

BY
J. C. CALVERT

ELEMENTARY CHARACTERS

Part I.

which I conceive to be the Secrete Apochryphic Sacred or Ogmian hereafter explained

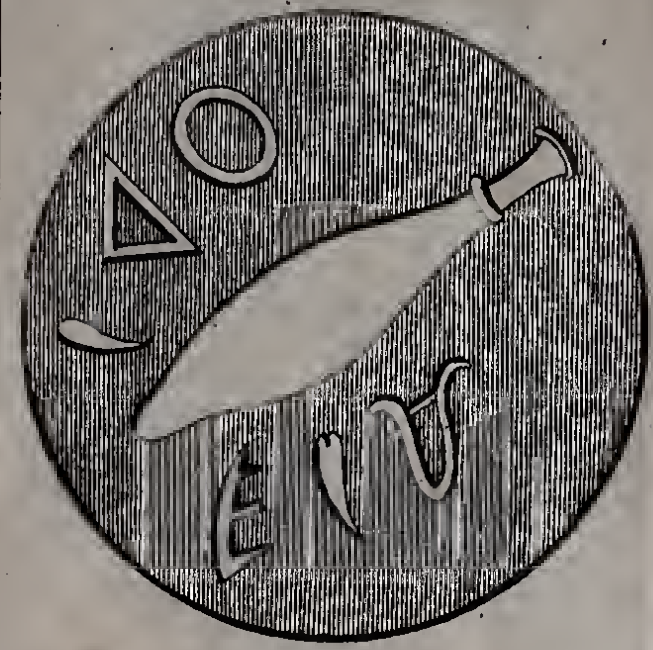
Handwritten symbols: a cross, a vertical line, a horizontal line, a zigzag line, a wavy line, and a series of vertical lines of varying heights.

Part II. Pierius' hieroglyphic Numerals.

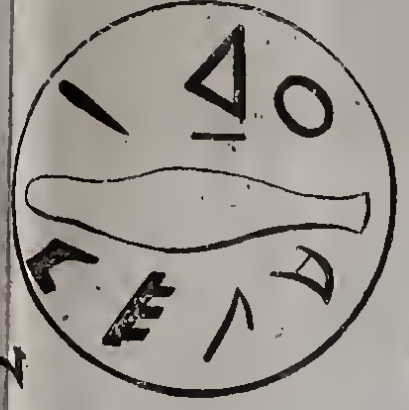
1	100	10	1000
2	200	20	2000
3	300	30	3000
4	400	40	4000
5	500	50	5000
6	600	60	6000
7	700	70	7000
8	800	80	8000
9	900	90	9000

Part III. Letters from M. Swinton's Tables		compared with Egyptian & Chinese.	
A	A	A	A
E	E	3	3
F	Y	2	2
S	2	2	2

Fig 1



2



3



The above are numeral Characters taken from reckoning by the fingers, as given and explained by John Pierius Valerianus in the first Chap. of the 37 Book of his Treatise on Hieroglyphics. Whatever position marks Units or Units of Hundreds by the left Hand; the same expressed by the right marks Tens & Thousands. Pierius dyed at Padua 1558, Oct. 81.

Published at the Act directed Nov. 12 1782. by J. Dodgley, in Pall-mall.



Faint, illegible text at the top of the page, possibly a header or title.

Second line of faint, illegible text.

Third line of faint, illegible text.

Fourth line of faint, illegible text.

Fifth line of faint, illegible text.

Sixth line of faint, illegible text.

Seventh line of faint, illegible text.

Eighth line of faint, illegible text.

N° III.

Memoire. — Being a Narrative of the Investigations and Discoveries made on the Subject of the Triremes, Quadriremes, and Quinqueremes, of the Ancients, of the Nature of Row-Gallery, of the posting the rowers, and of the mode by which these Vessels were rowed, by LIEUTENANT GENERAL MELVILL. Communicated to GOVERNOR POWNALL, May 15, 1781.

THIS narrative states, that the General, while in the West Indies, several years ago, had many repeated discussions with the officers of the navy on the subject of the ancient War-gallies, particularly respecting the manner of their being rowed, that he found the officers unanimously of opinion, that the *Triremes*, the *Quadriremes*, and the *Quinqueremes*, could never be so constructed as to admit of more than one row, bank, or tire, of oars on each side, as in the Mediterranean gallies now in use; and that if the construction of the vessel could be made to admit more, that it would be impracticable,

nay

may impossible, for more than one row to work at one time: That the difficulty, not to be overcome, arose from the impracticability of the angle of the position of the oar, and from the length such oar must have in any row except that whose ports for the oars were at the first practical height from the water: That therefore these vessels of war having, according to this notion, but one row of oars on each side, must have received their name from their having three, four, five, or more rowers posted to each oar. The General, deferring to the practical knowledge of these professional gentlemen, formed his opinion upon their authority, that this must have been the case. He set himself to investigate the subject for confirmation of this opinion on fact, as he should find that fact to turn out in the descriptions of sea fights, and of other naval transactions, as given by the ancient authors, particularly Polybius, Cæsar, Livy, and Florus. The issue of this research obliged him to relinquish his opinion, which he had taken up upon authority as above; the descriptions, accounts, and facts, in these authors, evinced most evidently that these *Triremes*, *Quadrirèmes*, *Quinquerèmes*, &c. were respectively so denominated, from the number of rows, banks, or tire of oars,

oars, which they had on each side, and not from the number of men posted to each oar: on the contrary, it appeared that each oar was worked by one rower only. Although this point was clear and evident; yet he had not been able to determine, with any satisfactory conviction, what could be the post and position of the rowers, or what had been the manner of arranging the several banks or tire of oars and rowers within these vessels. The placing them on the sides above each other seemed to be subject, according to all the schemes of modern writers which he had perused, to insuperable inconveniences. The unmanageable length and weight of the oars, that must have been required for the upper tires even of *Quadriremes* and *Quinqueremes* (not to speak of loftier gallies of greater rates, which have been several times used) must have rendered the working of them impracticable; the placing of the different rowers so in seats on this plan as not to obstruct each other, seems impossible; the great space which they must have occupied seems incompatible with all ideas of naval architecture to avoid that difficulty; the unfavourable angle on the ship's side with which they must have rowed; and lastly, the difficulty and danger with which the rowers must have ascended

to,

to, or sat upon the *sedilia*, or seats, close to the upright sides, when the galley had a rowling motion, seems to be what neither the principles nor the practice of mechanics could admit. The objection of these difficulties had baffled all the endeavours at solution, which had been used by many very ingenious and learned writers, for some centuries past, in their experiments to determine *what was the true arrangement of rowers in the ancient gallies*. Mortified with these disappointments in this line of his researches, and despairing of all hopes of obtaining an explanation from these authorities, he resolved to try what he could do by the unprejudged use of his own reason, a resource which he had availed himself of in his investigation of *some other DESIDERATA* respecting the ancients. He therefore set himself to consider what must have been the chief object of the Ancients in raising their war-gallies from one row of oars on each side, as they appear to have at first only had, up to 2, 3, 4, 5, and more rows. It occurred to him, that it must have been mainly for the sake of *rapidity* in their movements; and that, to obtain this purpose, the indispensable requisites were, that the arrangement of the rowers within each side ought to have been such,

as to admit of the greatest number possible; that they should have been so placed as not to impede each other; that they should be enabled to row to the best advantage; and that their oars even for the highest tides both in respect to length and weight should be sufficiently manageable: from these grounds THE DISCOVERY immediately resulted to him, which was, that by a combination of two obliquities between the galley, and a rowers-gallery running along its waist part, projecting outwards from a small distance above the water's edge, with an angle of 45° , and rows of horizontal seats of about two feet in length, fixt obliquely upwards from the bottom of this gallery, against this obliquely projecting part of the side, with no more space betwixt them in all directions, than should be found necessary for the free movement of men when rowing together, a *Quincunx*, or *chequer-order* would be formed with all the above-mentioned requisites, to the highest degree of advantage, which could co-exist consistent with each other. This would also at the same time be free from all the opposite difficulties, insuperable as was proved, until this construction was imagined, which from a defect in the principle of inquiry, had not been successfully combined by
other

other investigators, many of whom however he was fully convinced were of very superior genius and learning to himself. That in 1773, being then in London, he caused a model of one fifth part of the waist of a *Quinquerimis* to be erected against a high wall at the bottom of a back yard, behind his house in Great Pultney-street. This was constructed with the same proportions as would have been required for a fifth part of a real galley, and held in a very small space, but with sufficient ease, thirty rowers in five tires of six men in each lengthways, making one fifth part of the rowers on each side of a *Quinquerimis*, according to Polybius, who mentions three hundred as the whole number of rowers in it, besides 120 fighting men. This model had been viewed by many persons of distinction, as well as officers of both the sea and land services, with some of whom he had performed together the motions of rowing in it, and all agreed, as well as one of his majesty's chief ship-builders, who had come to inspect it, that *such* and no *other* must have been the construction of the ancient war gallees. General Melvill, after this discovery, had with great pleasure found, that some of the obscurest passages on naval matters, which before had not a little puzzled him, were now
become

become both intelligible and entertaining to him. That in Italy, where he travelled in 1775 and 1776, he found none of the *Literati* and Antiquaries (with whom he conversed) acquainted with this subject, nor indeed with any other naval or military points of antiquity, however learned and ingenious some of them shewed themselves to be in other branches of ancient literature. He conceived, that their want of success in discovering the true construction of the ancient row gallees had not only been owing, in a great degree, to the want of using a proper principle of investigation, together with their ignorance about shipping and sea matters in general; but likewise to the form of their own gallees, so often before their eyes, and having only one row of oars on each side; and also to the imperfectness of many of the coarse *Bassi Relievi*, and small coins, bearing images of small row gallees, but without shewing clearly either the obliquity of the sides, or the separation of the oars from them; which would indeed have been an exceeding difficult work at first, and much too nice to have remained to this day. On several pieces of sculpture however, particularly at Rome, he found the figures of row gallees, or parts of them, with the oars represented as coming down from

Q

oar

oar holes disposed chequerwise. In the Capo di Monte Palace at Naples, he not only saw, on the reverse of a large *Medaglione* of the emperor Gordianus, the figure of a *Triremis* with three rows each of 14 or 15 oars, very distinguishably, issuing chequerwise from an oblique side, according to the model he had before constructed; but he also observed, in the king's collection of ancient paintings on pieces of *Stucco* or plaster, at Portici (which had been brought from *Pompeii*) the figures of several row galleys, one or two of which, by presenting the stern part, shewed both the obliquity of the sides and the rows of oars reaching to the water, in the same manner as in the model above-mentioned.

N° IV.

Dissertation on the ancient CHARIOT; the Exercise of it in the RACE; and the Application of it to real Service in WAR.

THOMAS POWNALL TO RICHARD BERENGER.

THE descriptions of *the Military Chariot*, which one meets with in the ancient poets and historians, referring to a thing of common use and notoriety, might indeed become, to those who were conversant with the thing itself, sufficiently explanatory of the peculiar uses, properties, and actions specified; but, to a reader, in these distant days, when the thing no longer exists, they are too vague and obscure, not to want a regular, full, and distinct explanation.

In searching through the scholiasts and annotators, we find nothing precise and satisfactory; and the drawings from coins and marbles leave us equally uninformed as to particulars. These seldom mark any particulars of the harness or carriage, or of the manner of joining the horses to it.

It was not the intention of the artists, who wrought these designs, to mark the detail. It was sufficient that they characterised the specific action meant to be exhibited. Besides this, their inattention in these general designs to the minute rules of perspective added confusion to indecision.

In consequence of this state of darkness and doubt, I put together, on a few sheets of paper, all the passages which in the course of reading had occurred to me on this subject, with such remarks as the present moment suggested: and I did it with a view of trying how they might elucidate each other; and as I soon found, as further opportunities occurred to me, that there were several marbles and coins which afforded specimens of parts, some in one particular, some in another, of this subject, I formed the design of comparing the descriptions in these passages with such representations of this equipage as I might hereafter meet with in coins or marbles, or drawings made from them.

The result of this investigation enabled me to draw up such a particular detail of this military equipage, as left me in no difficulty of understanding any description
or

or narrative which I met with of the use or application of the chariot, either in war, or in the race.

In treating the subject, I shall avoid that parade of literature, which crowds the margin with quotations, and shall confine myself solely to the result of my inquiries, referring, in my assertions, to such authorities only, and in my descriptions to such passages only, as are absolutely necessary to the explanation.

The ancient military chariot had but two *Wheels*. The height or diameter of these, in no instance that I have met with, exceeded the height of a man's knee. There are some instances of these wheels being of one plain disc, firmly compacted with iron; but the common form was such as our wheels of the present day bear, having sometimes four, sometimes six, and seldom more than eight spokes or radii; the felines being armed or shod with brass.

The usual length of the *Axel-tree* was seven feet * in carriages of burden, as well as in those of war, drawn by one

* Hesiod.

yoke or pair of horses. When there were more horses abreast, the axle extended to the extreme breadth of the whole rank, or at least to the interval between the outside horse, and that next to him. There is a particular description of this matter in the Military Chariot, described by Xenophon *: “ They had strong compact wheels that “ could not easily be broken, and long “ axle-trees which would not be liable to “ an overturn.” This dimension of the wheels, and this length of the axle-tree, accounts for every action of the chariot, which would be otherwise inexplicable; namely, the driving in full career upon all kinds of ground, over heaps of arms and slaughtered bodies, without being exposed to (otherwise a common accident) an overturn. It is from this length that we meet with descriptions of the † axle groaning under the weight of two superior heroes. It is this length of the axle which allows room for such a breadth in the car, as gives space for a warrior to stand and act on either side the driver. But this matter is put out of dispute by the examples to be found in the ancient coins and marbles; you there see the wheel on the same perspective base with the outside horse. The

* Xenophon Cyropæd. lib. vi. 17.

† Iliad, v. 838.

head of the axle was capped with a nut or box, to secure the wheel upon it, which nut was usually in the form of a *Lion's* or *Leopard's* head.

The *Temo*, or pole, called by the Greeks *ῥύμος* *, was fixed to the axle-tree, and tied to it by two strengthening cheek-pieces, as at *c* in *fig. B*, which I have taken from professor *Scheffer de Re Vehiculari*; this form is confirmed by several passages describing it. The end next to the axle-tree is therefore called the *furca*, or, in Greek, *Στηρὶνξ* and *δ.πλῆν ξύλον*. The other end, which lay upon the yoke, was called *ἀκρὸς* †, and by Curtius, *summus temo*; that the temo was inserted into the axle-tree, is plain from Ovid ‡ describing the wreck of Phaeton's chariot;

*Illic fræna jacent, illic temone revulsus,
Axis——.*

The body of the chariot was fixed upon this part where the axis and the temo united, and so strongly were all compacted together, that while we frequently read of the yoke's being torn off from the temo by the violence of accidents, yet we never

* *Iliad*, v. 729.

† *Ibid.*

‡ *Metamorph. lib. iii.*

meet with an account of the temo being wrenched off from the axis, except in the one instance of the chariot of the sun driven by Phaëton.

At the other end, there was either a hole through the solid body of the pole (or a ring affixed to it) through which a pin (set erect in the middle of the yoke) passed in the harnessing the horses by this yoke to the chariot, as will be seen presently. This hole or ring, (*b* in *fig. B.*) is called by Homer, *Iliad* xx. v. 272, κρικῶν. In the original use of these chariots, each pair or yoke of horses were harness'd to the chariot by a separate temo or pole.—When there were one pair—there was only one temo.—When two or more yoke, two or more poles. In the first case, the temo was fixed in the middle of the axis as before-mentioned; in the second case, the two temones were so fixed as to leave two fourths of the whole length between them, and one fourth towards each end of the axis. There is in one of Mr. Hamilton's drawings from the ancient Tuscan urns and vases, Plate 130, vol. I. an example of this case, where each temo forms each side of the frame of the body of the chariot. When there were three pair or yoke of horses abreast, of which also there
are

are instances in the antique marbles, &c. there is supposed to be three temones: you will in Xenophon read of τετραάριμος ἐκ ἵππων ὀκτώ, and ὀκτάριμος. But you must not understand that in all these instances, and in all cases, the several yokes, or pair, were abreast; in some instances, they were a-head of each other, with a *temone perpetuo*. The length of the temo was accommodated to the length of the horses, leaving no more space between the hind quarters of the horse and chariot, than was sufficient for the horse to move his hind legs clear of the carriage.

The *Carriage* thus described, the *Body* of the chariot comes next under consideration: in the first place, it is clear that in the military equipage the body was not a separate distinct part moveable, but fixed, and actually a part of the whole compacted together inseparably, as is above said of the example in Mr. Hamilton's drawings. The body of the chariots of state and parade were moveable, so as they were taken off from the carriage and set carefully by, when not in use, and only put on and hung by braces, when wanted for use, as we read of Priam's chariot in the 24th book of the Iliad. The carriage is there called ἄμαξα, and the body περίρωθα.

All

All those chariots which we read of in Homer, as being so occasionally hung on upon, or with braces, are of that sort; but in the military chariot, the body and the carriage were but different parts of the same, one inseparable compacted whole. We find that, when Pallas returned from the engagement, the body of her chariot is not taken off from the carriage, but the whole ἄρματα set up inclining against the wall *. When Jupiter returns from the battle to Olympus, the whole ἄρματα is set upon a base or altar. Whereas Priam's chariot is an example of the first sort, as is that of Juno mentioned in the fifth book of the Iliad; where, being a state or parade chariot, it is said of the body, called δίφρος, that

Braces of gold suspend the moving *Throne*.

The carriage is there called ὄχος. Although these parade chariots might be so hung upon braces, and fixed occasionally on the carriage; yet those used in war, and in the race, could not have stood the violent shocks to which they must have been liable, if they were not firmly compacted and fixed; and they appear so to be in all the exemplars which I have seen.

* Iliad, lib. viii.

Mr. Professor *Scheffer* has described the parts of the body of the chariot with the exactness of a mechanic, yet he has not touched upon the article of the hanging or bracing it upon the carriage: nor has he taken any notice of the difference above described, between the *Parade* chariot thus braced on, and the *Military* chariot. The form of the body of the chariot is so well known, that it would be a mere waste of words to describe it, and a needless expence to give a drawing of it. I will only observe, that the front of the body was made breast high, and rounded like a shield, so as to answer to the driver the purpose of that defence, and was for that reason called ἀσπίδισχη, or the shield part. The sides of the chariot sloped away backwards almost to the bottom, or floor of the body, but differently, and by various lines in different bodies. The hinder part was open, and although not higher from the ground than the height of a man's leg, yet there was something of a step to it called πέλματα. Whether the body of the chariot was extended in breadth to the full extent of the axle-tree, is no where specified; I think that in no case it extended further than to the interval between the two outermost horses. However, from the use made of it in actual service, it must

must have been of a breadth sufficient to allow the officer to stand either on the right or left of the driver, as the nature of the service should require : on the coins and marbles we find the officer sometimes on the right, sometimes on the left : in the impression of a coin given by *Scheffer*, the officer is on the left hand ; in a basso relievo in the church of St. Felix at Spalatro, as published by Mr. Adams, the officer is on the right.

The bodies *Hyperteria* or *Capsas*, used in the race, were merely adapted to the carrying one person ; the difference of these are plainly discernable in the various descriptions of them. There is in some of the exemplars of the chariots in the race, an appearance of the charioteer's being bound or braced in by a belt, or something like it, which may perhaps have been of use in that case ; and indeed some of the accidents which we read of in the race, seem to confirm this supposition. But this could not be the case in military service, for neither the actions nor the accidents in battle, so frequently described, could have been so performed, or have so happened, if the charioteer, or officer serving in the chariot, were so tied in. I refer to such actions and accidents,

as the officers dismounting and remounting, and tumbling headlong to the ground out of the chariot when slain.

The next consideration will be to examine the harness of the horses, and the manner of tackling them to the yoke, and of fixing the *Yoke* to the *Temo* of the carriage. The only parts of harness which I have met with in reading, or seen in drawings, are the collar and body-girth: the one called *λέπαδνα* *; the other *Μασκαλισηρης*. The *Lepadna*, or *Collar*, was a thick broad leathern belt, consisting to all appearance of several folds stuck together, and bound at the edges; so cut and shaped as to fit the neck and breast, without pressing or pinching in one part more than in another, when buttoned on. This collar, and the manner of buttoning it, may be seen in the drawing, (*Fig. C a*,) taken partly from the horses over the great gate of St. Mark's church at Venice, and partly from a basso relievo in the temple of Jupiter at Spalatro. The same collar, with scarce the least change of form, may be seen in numberless examples, although not perhaps with the same distinctness.

* Iliad, v. 729.

The body-girth, or *Maskalifêris*, (Fig. C b,) was also a broad leathern belt; this also may be seen in almost every exemplar of the chariot and horses.

Both these were fixed to the yoke which lay upon the withers (F. C: c.), bound to it by the *subjugia* or *jugalia lora*. The collar was more particularly applied in drawing, the latter in keeping steady, and stopping the carriage. From the manner in which the horses were harnessed to the yoke, no other tackling was necessary, or ever used, unless some trappings or ornamental additions; but, strictly speaking, the collar, girth, *lora jugalia*, and yoke, were all the harness properly so called.

The yoke or *jugum* was of wood, of a length sufficient to reach from the withers of one horse to those of the other, leaving a proper distance between them for the temo. It was of such a breadth, and so curved and hollowed in its form, fig. A, e, e, that the respective ends which rested on the *Λοφος*, or withers of each horse, might * lie there with ease to the horse, and with security to the carriage. Each end

* See fig. E.

of the yoke was variously carved and ornamented. The middle part of this yoke was so curved, *fig. A d*, and hollowed, as to receive (the ἄκρος) the end of the temo, which was laid upon it. In the middle of which concavity a pin or peg called by Homer * ἔσωρ, *fig. A a*, was fixed erect, so as to pass through either the solid body of the head of the temo, or through a ring called by Homer κήκος, affixed to the end of it. I have taken notice of this hole or ring in speaking of the temo. When the temo was affixed as above to the yoke, it was fastened and bound to it by the long leather thong called Ζευγόδεσμος, or *messabos*. The length being generally betwixt fifteen and eighteen feet; that mentioned by Homer is nine cubits, or thirteen feet and a half. This thong was of crude or white leather, in order that it might be more pliant in its ligatures. That these ligatures might be secured against slipping or giving way, the yoke had three or more grooves, *fig. A c c*, or niches cut in it, called ὄμφαλοι, in which this thong is sunk in the tying †. There were also affixed upon the yoke, hooks or rings, (*Fig. A b b b b*) called οὔκες, through

* Iliad, xxiv.

† Ibid. v. 269. Εὖ οἰήκεσσιν ἄρηρός.

which, says Eustathius, the * reins which guided the horses were passed. The drawing in the plate will best describe this jugum, for every part of which there is sufficient authority even in this passage alone of Homer. The method of harnessing the jugal horses was as follows: The charioteer first put on upon the horses the lepadna or collar, and the maskalistêris, or body-girth. They then laid the yoke across their necks upon the lophos or withers, where it was tyed to the lepadna and maskalistêris by the jugalia lora †. He then brought them thus yoked to the chariot, and laid the pole of the chariot upon the yoke, passing the estôr through the krikos, the hole or ring at the end of it, after which he bound (*Fig. D,*) both firmly together, tying them trebly or three-fold ‡ on each side, (*Fig. C d*). After

* Amongst the Florentine gems, Vol II. Class 2d. Table 26. No I. is the Achilles in prælium revertens; in this representation are seen the δῖνες, or rings, through which the reins ran, exactly as I have drawn them.

† It appears from Homer, in the passage above cited, that this was done in the stable before the jugum was fixed to the temo; but the usual way was, after having harnessed the horses, to tie the jugum to the temo, and then bring the horses to the jugum thus fixed, and tackle them to the jugum.

‡ Homer.

which

which the reins, coming from the horses' head, were passed through the rings fixed upon the yoke *. In a basso relievo on a sepulchral urn, exhibited in Piranesi, there is an exemplar of the act of harnessing the horses to the jugum. If the reader is curious enough to turn to the passage above cited from Homer, of which I have made so much use in this description, as also to that in the fifth book of the Iliad, v. 719,—and to refer his eyes to the † many examples which he may see in drawings from antiquities (many very fine examples of which he may see in Mr. Adam's drawings from the remains at Spalatro; two in the compartments of the frieze of the temple of Jupiter, and one in a basso relievo in the church of St. Felix), he will find every thing most minutely confirmed, which I have above described: he will see from this description of the harnessing the horses to the chariot, the reason why no traces or harness, according to our idea of such, are ever seen, and why even the pole or temo is scarce, if ever, seen ‡.—This description of the manner

* 'Ἡνία λείων' ἐλέφασσι. Homer, Book V. v. 583.

† Vide plate 43 and 117, of ancient monuments, published by Abbé Winkelman; these I have seen since the first publication of the above.

‡ See fig. E.

of affixing the yoke to the temo or pole, and of harnessing the horses to the yoke, will explain every passage that occurs in common reading, so far as relates to the *bijugæ*, or chariots drawn by a pair, or one yoke of horses.

Before I proceed to the more mixed kind of equipage, I will just mark, as I pass, that the ancients sometime used carriages drawn by one horse, which had shafts as our present common carts have; which shafts were tackled to the collar or *Lepadna*, in the same manner as at this day; how the weight of the shafts and carriage were supported, I have no where seen or read. The only instance which I remember, at present, to have seen of this sort of carriage, does not particularize the manner in which this weight was born. The reader will find the instance which I refer to in one of the paintings found at *Herculaneum*; it represents a grotesque, or emblematic carriage, being one of those single cars drawn by a hawk or parrot, and driven by a grasshopper. Here, as in the drawing from the Tuscan vases, the side pieces of the floor or *Τένος* of the body of the chariot continued make the shafts.

It

It has been remarked above, that the ancients, in the most early use of the chariots, used as many poles as they had yokes, or pairs of horses in the carriage abreast; but this was not always so, for we read in Homer, in the case of Achilles's chariot, of an additional extrajugal horse; as also in that of Priam's chariot, of two extrajugal horses. I shall therefore proceed to describe the manner in which they harnessed those extrajugal horses, when they used one or two additional harnessed in this manner. It was very simple, and will therefore be the more easily explained and understood: It appears that the ancients wisely studied, in these armaments, to avoid every unnecessary matter that might become the occasion of embarrassment or entanglement in the execution.

As to the harness of this extrajugal horse, it does not appear that any other was used (as indeed not necessary) than the lepadna or collar. For this horse bore no part of the weight of the chariot, nor was he in any way concerned in stopping it, but simply for drawing; and he drew by a trace called *ἄμπερον*, instead of a pole. This *ἄμπερον* is seen, besides the temo, in plate 130, of vol. I. of the drawings of Mr. Hamilton's Tuscan vases. This trace

was extended, between the jugal horse and extrajugal horse, from the Παρηγορία to the axis. It will appear that this parëoria was not attached to the yoke, but was simply a trace by which the collar of the extrajugal horse (called therefore Παρήγορος) was joined to that of the next jugal horse.

In the instance of three horses harnessed to the chariot of *Achilles*, lent to *Patroclus*, we read that after *Automedon* had harnessed the two immortal steeds, *Zanthos* and *Balios*, under the yoke, he harnessed *Pêdasos* by the Παρηγορία, or extrajugal traces. This extrajugal horse was called, from this particular harness, Παρήγορος, or, from the long trace by which he drew, called Σειρά, Σειροῦος, or Σειραφόρος, which the Latins translated *funalis*.

The effect of the accidents which befell this horse, as described by Homer, proves that this horse was not harnessed to the yoke. He says, that upon this horse's being wounded and falling down dead, the jugal horses were distracted, or drawn asunder as far as the yoke would permit without breaking, for although the yoke creaked with this stress upon it, it was not broken, nor were either of the horses separated from it. The coupling
reins,

reins, called by Virgil, *concordia frena*, were confounded and entangled. But the moment that this extrajugal horse was separated by cutting the trace, the jugal pair stood again in their due order, and the reins were righted. If the traces by which this extrajugal horse was fastened had been any way tackled to the yoke, he must, by his falling, have pulled both the horses the same way, and not afunder; but by his pulling them afunder, it is clear that he was joined by the harness to the horse, and not to the yoke, as I have above described, drawing by a trace which passed between this outside horse and the jugal horse to which he was tied *. This again accounts for our not seeing in the drawings even the body-girth, or any drawing trace on the outside horse of the *quadrigæ*, in those cases where extrajugal horses were used.

Nestor also had an extrajugal horse in his chariot, which Paris killed; and being slain, the old man, in like manner, disencumbered his equipage of him, by cutting the *Pareoria*.

* See fig. F.

The description of this one extrajugal horse serves likewise for the other on the other hand, as that was intirely simular.

This description of these extrajugal horses will answer to the explaining every action or evolution of the chariot, both in battle and in the race.

With respect to the harnessing four horses abreast, the two on the outside might be extrajugal; but I am convinced (especially as I read it in Xenophon) that when more pairs were put abreast, each pair had a *temo* or *pole*; and a peculiar sort of carriage for carrying great burthens is actually so described; but the quadrigæ, which were most in use, were certainly most commonly drawn with a pair of jugal horses, and a pair of extrajugal horses coupled on each side. The business of guiding, keeping steady, and stopping the carriage, depended chiefly on the jugal pair; that of wheeling up each extreme axle depended on the strength and activity of the respective outside extrajugal horse, as will be seen presently.

The construction and the composition of this equipage of the *Bijugæ*, the *Trigæ*, and *Quadrigæ*, being thus described, the
 exercise

exercise of these in the games, and the application of them to service in war, is the next point to be inquired into. This inquiry will still more illustrate the matter.

The whole of this is contained in one line in Homer :

Κραιπνὰ μάλ' ἔνθα κὶ ἔνθα διώκεμεν ἥδε φεβέσθαι*.

which Mr. Pope translates thus :

Practis'd alike to turn, to stop, to chace,
To dare the shock, or urge the rapid race.

If we view this line in the light of science, we shall find that it does very minutely describe every manœuvre used in the evolutions of the chariot, the advancing and retreating, and those sudden rapid wheelings to the right or left, by which they make their almost irresistible attacks; which motion, as I shall afterwards explain it, is appropriated, of very ancient time, to the movements of the knights in the game of chess.

† *In gyrum gressus magno impete lunat
Curvatos.*

* Iliad viii. 107.

† Vidæ Sacchia Ludus.

The great excellence and perfection of this manege was first * so to bit the horses, that their necks might be pliable and obedient to the reins: the next consisted in teaching the horses to move by such † measured steps, that the whole equipage, when two, four, or six, were joined together, might move as one body without confusion: Thirdly, to train them to run with velocity, and to inure them to courage and hardiness, in either attacking by an impetuous shock, or in receiving firmly the attack. The last was in dressing them to execute the various evolutions of wheeling with docility, activity, and velocity: in short, says Xenophon, to do all other things which they would have occasion to perform in actual service, to run over all kind of ground, to stretch up the steepest ascents, and to rush down the sharpest declivities.

The chief excellence in driving was *steadiness*, so as to proceed whether moving in the right or curve line, in one uniform direction, and not to and fro by a vacillating and sinuous motion. But the

* Xenophon.

† Which you see described in all the ancient coins and basso relievos.

great excellence of the horses, as well as the highest skill of the driver, was called forth, in performing the wheelings to an exact given curve, under full speed.

The chariot race was instituted for the exercise of this military skill, to encourage and afford opportunities of displaying it; and was so regulated as to require the best horses, the highest finished manege, and the most perfect skill in driving. To complete the noble competitors in this most difficult manoeuvre of the *wheeling*, the course was always so laid out, that the race depended chiefly on the performing this difficult evolution. He that will read with the eye of science old Nestor's advice to his son in the Iliad, Book XXIII. v. 306, will need no other explication of this matter.

The course was generally of that length that the race was finished by going once round; although sometimes, in the more confined circus, the chariot went four times round, making seven wheelings, reckoning those round both termini taken together. The route of the race was from the right wheeling to the left, round the extreme meta or terminus, and then returning back to the same ground, so as
that

that the meta or terminus from which they set out should be upon their right; and, if the course consisted of more rounds than one, then wheeling to the right round this meta, and so alternately in a line, making the Arabic figure of 8. Now four rounds thus performed will make just seven wheelings. I am conscious that this opinion is new; but being persuaded that I am grounded both in the nature of the thing, and by sufficient authority, as will be seen presently, I venture to give it out.

According to the opinion commonly received of the chariot race, that the competitors started from the right of the barrier, and wheeling to the left round the meta, always went the same way, always wheeling to the left in every circuit, whatever the number of rounds were, there arises a most inexplicable *injustice*, as to any chance that the merit of swiftness in the horses, or of skill in the driver could have, except what they derived from their place upon the right or left, which mere lot gave them. For when there were from ten chariots to forty at sometimes, all arranged abreast at the barrier; that upon the left, and that upon the right, would run courses of very different lengths, in
the

the proportion of the lesser or larger circle that their lot destined them to.

The explication of this difficulty given by Mr. West, in his discourse on the Olympic games, only adds confusion to it. The whole skill and courage of the charioteers were (he says) employed to obtain the point of advantage at the wheeling, and he describes them in this attempt all driving foul of one another, by directions all converging to this point; this, I say, may add to the confusion, but does not relieve the difficulty, for still the chariot, which was placed upon the right of all, had, in this first attempt, the hypotenuse, or longest side of the triangle to run, while the chariot upon the left had only one of the *Legs* of the same right-angled triangle, and so the rest in gradation; and what a scene of unavoidable inextricable wreck must all these chariots rushing together, in converging lines, have made! This seems so absurd, that one cannot but reject it at first sight, from the nature of the thing itself. But this attempt of running foul on one another, and crossing upon each other, is contrary to *fact*, is contrary to the laws of the course, which forbid all fraud, all *crossing* or *jostling*, as our modern racers term it. And we find
in

in the 23d book of Homer's Iliad, that *Antilochus* was deprived of the prize he claimed (which prize was given to Menelaus) because he (*Antilochus*) had crossed upon, and attempted to run foul of the chariot of Menelaus.

All this perplexity is relieved, and the difficulty cleared up, by the explication which I have given above: for by *that* route of the race, he that was outermost at the setting off, returning to the same ground with the starting-post upon the right, would be innermost at the coming in; and if the race consisted of more circuits than one, the competitors would be alternately outermost and innermost at each alternate wheeling. So that he who ran the largest circle in the first circuit, would run the lesser in the second, and *vice versa*.

Whoever will read the account of the chariot race in the *Electra* of Sophocles, and will particularly attend to the nature of the accident which happened between the Thracian and Libyan cars; and to the fatal one which befel *Orestes* at the close of the race, will be confirmed in this opinion. The narrative tells us, That the chariots having finished the *third*
circuit,

circuit, and running the *fourth*, some of them had made the *seventh* wheeling, and were got again into the straight right line, at that moment of time the *Ænian* charioteer coming up to the *Meta*, in or near the point where the route of the course must cross; and his horses, hard of mouth, breaking from him, swerved and run foul, with their front direct, upon one of the *Libyan* chariots. This is an accident that could not happen, if the returning line did not cross upon the outgoing line, by the chariots running the course in the figure of eight. But the circumstances of the disaster of the car of *Orestes* put the matter out of all doubt.

The narrative proceeds, and says, That this accident between the *Libyan* and *Ænian* chariots drew after it an almost general wreck of the chariots then running. But that the skilful *Athenian*, who was last but one, observing his time, bore to the right out of the course, and so avoided them. That *Orestes*, who lay by in the race, as having horses of that rating way of going, that he depended upon the push at the last for his success; finding that now was the time to make his push, bore still more to the right, in order to pass the *Athenian*; and, for this purpose, having
given

given the left-hand rein to his horses, most unfortunately run with the end of his axle-tree against the *Terminus*, at the coming in. Now unless this terminus had been upon his right at the coming in, this accident thus described could not have happened; but being upon the right, every previous accident naturally leads to it.

However, as the route of the race generally consisted but of one long course, returning again to the starting-post, the only wheeling performed in it was to the left; but to make that matter even and fair, the chariots came in upon the left of the starting-post, as above described; so that those who were outermost at the wheeling round the meta, and had there the disadvantage, were innermost at the coming in, and had that disadvantage made up to them.

As in these courses of one circuit, which were the most common, the only wheeling performed was to the left round the meta*; the horse of the highest vigour and greatest velocity was harnessed extrajugal upon the right; and for the like reason, the best maneged and most flexile

* Vide Scholiast. in *Antigone* Sophoclis.

horse * was harnessed extrajugal on the left, because the first was to bring round the chariot in the act of wheeling, and the latter to maintain a kind of equably moving fulcrum, upon which the whole motion of the wheeling depended; so that each had his perfection, and each was first and most excellent in his respective property; the attending to which distinction might have cleared Scheffer's difficulties. The horses of the quadrigæ were generally, though not without exception, mentioned in the following order. First, the extrajugal on the right: Second, the extrajugal on the left. Third, the jugal on the right. Fourth, the jugal on the left. I mention this, as it will be necessary to explain some terms which the reader will meet with in *Homer*, in *Sophocles*, and in several of the other classics.

Let the reader be led next, by this inquiry, into the application of this equipage; thus composed, and thus exercised to actual service in war; he will find these chariots acting as distinct single bodies, in rushing upon and breaking the ranks of the infantry, sometimes by a direct perpendicular *attack upon the front*, but more

* Vide Sophoclis *Electram*.

commonly by wheeling suddenly to the right or left, and bearing down in a *transverse line along the front*, so as to elude the points of the enemy's spears advanced in front. He will find them sometimes stopping short upon a sudden halt, and standing unmoved; while the officer, who was carried in them, jumps down upon the ground, and puts himself at the head of the infantry, or engages in single combat. At other times he will find them coming short about, and retreating. He will find them, upon other occasions, acting in a compact corps, formed into a rank intire, in order to break the enemy's front, and then, by their various evolutions, making way for the infantry to pass up to action; at other times he will find them drawn up in a body upon the wings, and sometimes as a corps de reserve in the rear. In short, if we consider these chariots, trained as they were with such skill and discipline, and exercised to such great perfection, in wheeling to right and left with sudden and impetuous velocity, we shall easily perceive how every evolution of the cavalry might be performed in the same manner as the modern cavalry perform the modern evolutions of wheeling by fours; as also, how they might change their
fronts,

fronts, resolve themselves into lesser bodies, and unite again into one. I could quote instances of all these manœuvres, but I think it will be more pleasing to the reader to apply these observations himself to the many instances which he will meet with in the course of his studies.

Various were the methods taken and practised to *evade* this attack, which could *not be resisted* by the infantry, such as wheeling back, and opening to the right and left; but the only one I shall take notice of is the manœuvre mentioned by *Polyænus*.* in his *Stratagemata*. He says that Alexander, having learned that the Thracians had a powerful body of this chariot cavalry, trained his *Macedonians* to couch upon the ground, and with their shields thrown over them to form a *testudo*, over which the chariots of the enemy might pass without effect.

As the British island was, in the very early ages of antiquity, planted by colonies from the great commercial nations in the eastern parts of the Mediterranean sea; so the learning and arts of these polished

* Lib. IV. c. iii. § 11.

people were planted in this land. The astonishing monuments of the Druids, who were the priests of those colonies, are proofs of a knowledge in mechanics, which we of this enlightened day only wonder at, but are at a loss to account for. This use of the chariots practised by the Asiatics and Libyans, was the peculiar art of war in which the Britons excelled, and was peculiar to them. Although these colonies, and indeed almost the remembrance of them, had been in the time of Julius Cæsar overwhelmed by the barbarism of the natives, and of other uncultivated people who had transmigrated from the continent of Europe; yet this peculiar Asiatic art of war, the same as that used at the siege of Troy, continued to be used even so late as the time of his invasion, by the then inhabitants: in this manège we find they excelled to a very high degree of perfection. *Diodorus* says expressly, that they used chariots in war exactly in the same manner as the heroes in the Trojan war * are said to have used them. They used the same method of forming the line of battle, the same method of attack, and particularly that of *the transverse attack*, which is what Cicero,

* Lit. V.

in the 6th epistle of his 7th book, refers to, in the caution he gives Trebatius to guard against these sudden unexpected motions. The British order of battle, which Cæsar describes in the 24th chapter of his 4th book of the Gallic war, *Concilio Romanorum cognito, premissis equitatu et essedariis quo plerumque genere in præliis uti consueverant, reliquis copiis consecuti sunt*, is exactly the same as that formed by the Greeks described in Iliad IV. I could quote other passages to the same purpose, but this is sufficient.

As this was the peculiar art of war amongst the ancient inhabitants of this country, so had they the same solemn races, to train and exercise their youth to this discipline, and to maintain the same honour towards those who excelled in it. There are, to this day, remaining in England some vestiges of the *Cursus* in which they ran these races; which races being attendants on the solemn meetings of religion, the *cursus* were near their temples. The most remarkable is that near Stonehenge, which is a long tract of ground, about 350 feet (or 200 Druid cubits) wide, and better than a mile and three quarters (or 6000 Druid cubits) in length, enclosed quite round with a bank of earth, stretch-

ing directly east and west. The goal and carcer are at the east end. The goal is a high bank of earth, raised with a slope inwards, whereon the judges are supposed to have sat. The line of this bank is north and south, directly across the curfus, beginning from the south bank of the curfus, not reaching quite to the north, but leaving a space there for the chariots to pass to the carcer, between this goal and the north bank, or side of the curfus. The metæ are two tumuli, or little barrows, at the west end of the curfus :

Some tomb, perhaps of old, the dead to grace,
Or then, as now, the limit of a race.

Pope's Homer.

as old Nestor describes the meta of the curfus on the plains before Troy.

From the very state and form of this hippodrome, or curfus, my conjecture, as to the manner in which the race was performed, is confirmed in fact. Here we see that the chariots set out from the carcer, on the right (or northward) of the goal, and ran to the west end; whence, wheeling to the left round the metæ, they returned again eastward, and must pass again to the northward, or left of the goal,
keep-

keeping it on their right in their coming in to the carcer, at the end of the race, as I have before explained the race mentioned in Sophocles.

Doctor Stukeley, not adverting to this route of the race, but seeing that it must end to the northward of the goal, at the east end, has been led to imagine, contrary to the fact of constant practice, that the chariots ran from the east along the southern side, and then wheeling to the right, north about the metæ, returned on the north side, and so ended to the northward of the goal. But the explanation which I have given is agreeable to practice, and confirmed by this existing fact.

The hyppodromes, or *curfus*, were called, in the language of the country, *rhedagua*; the racer *rhedagwer*, and the carriage, as we find, *rbeda*.

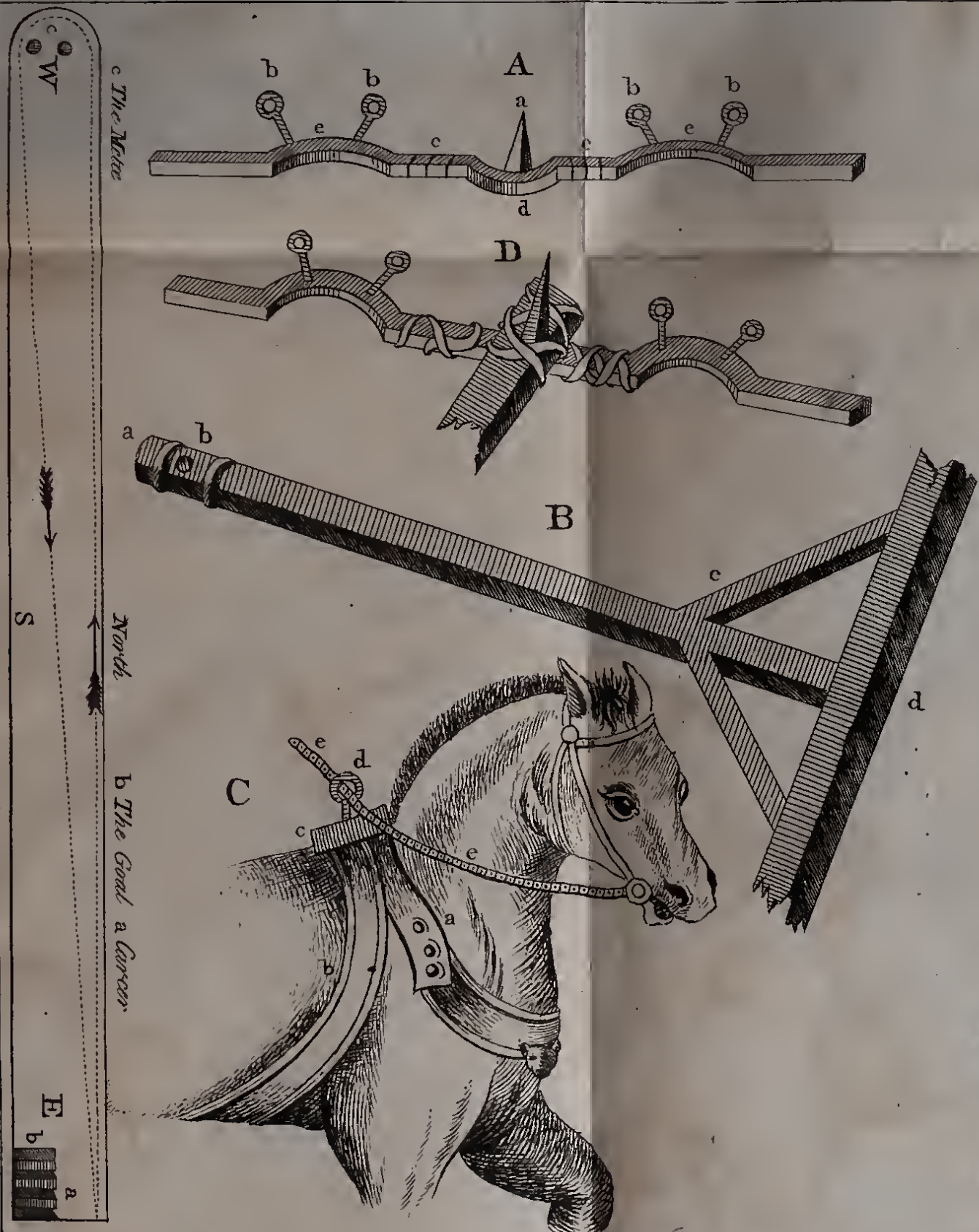
One of these hyppodromes, about half a mile to the southward of Leicester, retains still, under the various corruptions of speaking and writing, the old name *Rhedagua*; in the corrupted one, *Rawdikes*.

Doctor Stukeley says, there is another of these near Dorchester: another on the
7 banks

banks of the river Lowther, by Perith in Cumberland; and another in the valley just without the town of Royston.

Such were the equestrian sports of the ancient Britons, who even in their *Pastimes* encouraged a warlike spirit and emulation, and advanced the public welfare; for by making pleasure subservient to science, and considering the race only as an exhibition of military skill, they dignified the sport, and made their cavalry no less the delight and ornament of peace, than the support and terror of war.

T H E E N D.



A The Yoke.
 a The Estor, Pin or Pegg which passed thro' y end of the Pole.
 b Oukes the rings thro' which y reins ran
 c Omphaloi the Nitches in which y Mefsabos or Thong by which the Temo & Jugum were bound together sunk in the tying.
 d The hollow bend in which y Pole or Temo lay
 e A like hollow or bend to receive the Withers of the Horses.

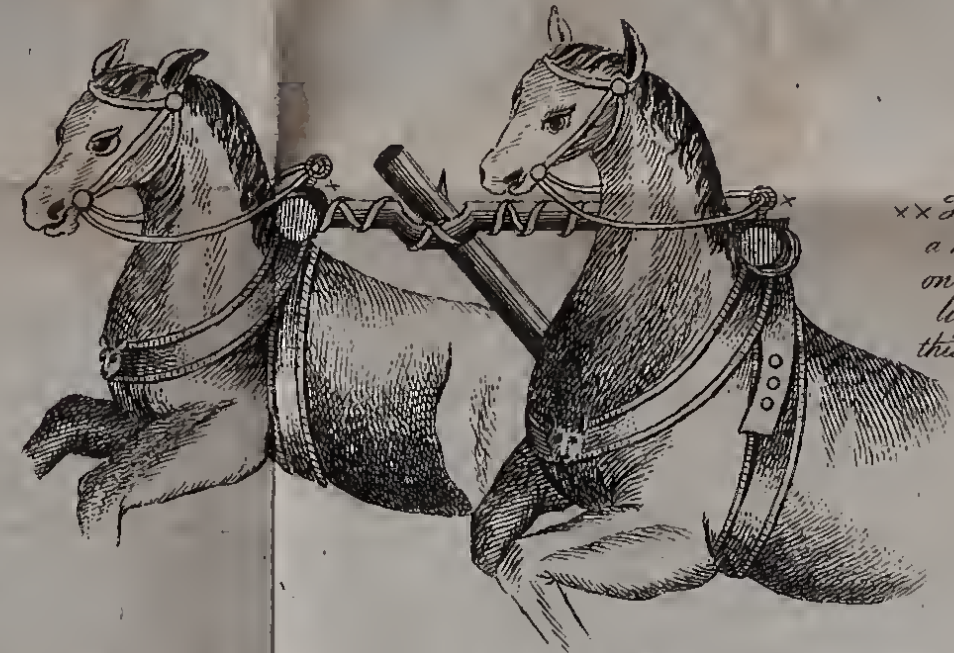
B The Temo. a Aoros, or summus Temo.
 b Krikes a hole thro' which y Estor pass'd in fixing the Jugum to the Pole.
 c Furca two Check pieces.
 d The Axletree fix'd by the Furca to the Pole

C A Horse harness'd drawn from the Horses over the Gate of S^t Marks Church Venice, &c
 a Lepadna, or Collar.
 b Maskalisteris, or Body Girth.
 both these met across the Withers of the Horse, & were there bound to yoke by the Zugodesmas.
 c Section of the End of the Yoke.
 d Manner in w^{ch} y Reins pass'd thro' Ouke.
 e The Reins form'd by a kind of Chain to prevent their being cut. They were also studded with Gold & Ivory.

D Describes y manner of joining the Yoke & Temo by means of y Mefsabos, tied accord- ing as described by Homer 3 times over y Pole & 3 times round each Side.

T Pownall del^t

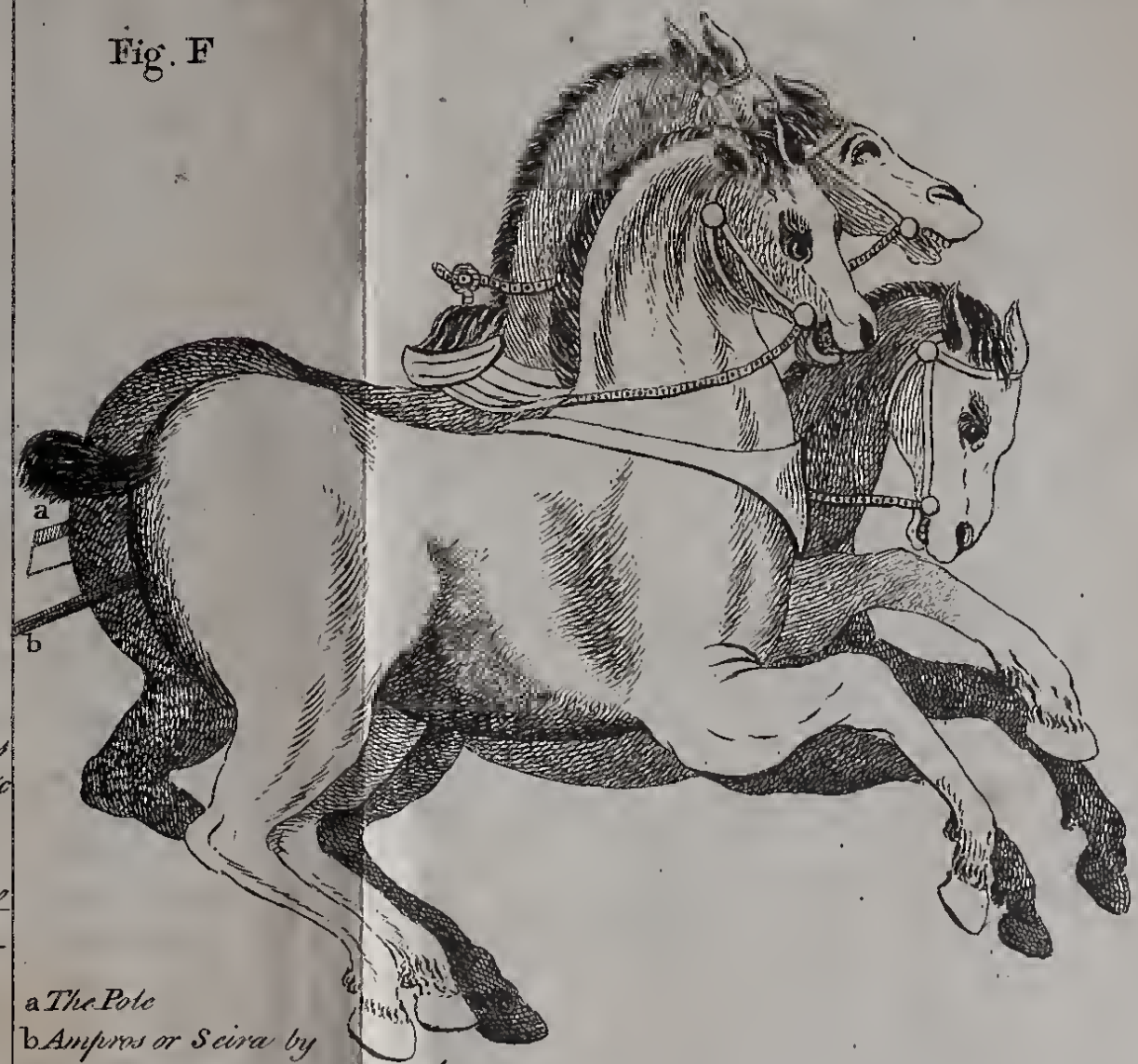
Fig. E



xx Here seems to be a kind of Cushion on which the Yoke lies on the Withers this is singular.

A rough Sketch of the manner of harnessing the Horses in the Bijuga agreeable to my description, as taken since from an Etruscan Vase in Pafser's antique Paintings.

Fig. F



a The Pole
 b Ampros or Scira by which the extra-jugal Horse drew.

Manner of a Quadriga taken from Plate 117 of Winckelman's Ancient Monu- ments, to shew the manner of harnessing the extra-jugal Horse. In this drawing the Quadriga is in the Act of wheeling to the right. The right hand Horses are upon their Haunches, and the left are stretching out.

